The Iron A

A Review of the Hardware, Iron and Metal Trades.

Published every Thursday Morning by DAVID WILLIAMS, No. 83 Reade Street, New York. Entered at the Post Office, New York, as Second-Class Matter.

Vol. XXIV: No. 14.

New York, Thursday, October 2, 1879.

\$4.50 a Year, Including Postage, Single Copies Ten Cents.

Charles Bliven.

The death of Mr. Charles Bliven, which occurred on the 22d inst., and which we announced in last week's Iron Age, was quite unexpected by his business associates and mexpected by his Disiness associates and family, although he had been sick for soveral months. Very few men attain to a position of greater respect in social and business circles than did Mr. Bliven, and his loss is one which is keenly felt by both his intimate friends and his business acquaintances. The complete story of Mr. Bliven's life, as we said last week, would embrace the history of the hardware trade in America during a said last week, would embrace the history of the hardware trade in America during a period of over a quarter of a century. It would be impossible within the bounds of a single article to present anything like an exhaustive account of this important industry. We must, therefore, at this time, content ourselves by calling attention to some of the phases through which the business has passed during Mr. Bliven's time, while alluding somewhat particularly to the most important of the enterprises with which he was associated. Mr. Bliven began business at a time when the bulk of all the goods sold in the United States were of English sold in the United States were of English and German manufacture, it being estimated sold in the United States were of English and German manufacture, it being estimated that at that time less than 5 per cent. of the whole trade was in goods of American manufacture, and he leaves the business at a time when these figures are completely reversed. The bulk of the goods in the hardware trade to-day are of American manufacture, the imported goods amounting to less than 5 per cent., probably not over 2½ per cent. That he was an active agent in the changes which have been wrought in the trade, all who knew him in his life can attest. Being of a stirring and enterprising disposition, he seems to have perceived, far in advance, the tendency of events, and to have profited by anticipating the current which was about to set in. From the beginning of his business career Mr. Bliven favored American-made goods, and did all in his power to promote domestic manufactures. His first connection in business in this city was with one of the pioneer manufacturers of the country, and a man who carefully fostered domestic goods. His own redict when he came into a man who carefully fostered domestic goods. His own policy when he came into the management of the business was to build up the trade in American goods, and keep-ing in this direction he early became in-

this direction he early became in-terested in the manufacturing concerns whose goods he was selling. Charles Bliven was born near Saratoga, New York, September 14, 1818. His father, Joshua Bliven, and his mother, whose maiden name was Eather Baker, were both of Amer-ican preparates. By occupation his father. name was Estner Baker, were both of American parentage. By occupation his father was a farmer, and Charles was employed, as farmers' sons usually are, about the farm until he reached the age of 15 years, at which time he became an apprentice to a Mr. Robert McDonald, who was carrying on a handread business in Sandrey. He contain hardware business in Saratoga. He remained with Mr. McDonald for the period of five ed with Mr. McDonald for the period of five years. As a boy Mr. Bliven received only the common school education which was afforded in those days, but in his sul se quent career he brought to bear upon his various enterprises such untiring industry and such remarkable powers of concentration of mind, that all the disadvantages under which he may have been supposed to labor were overcome. At the expiration of his time with Mr. McDonald, which occurred in 1838, Charles set out for New York. Like many another boy coming New York. Like many another boy coming to the city from the country, his wordly reto the city from the country, his wordly reresources at the time were very small.
The sum of \$3 only remained in his pocket
when he arrived, and he at once set about
hunting for a job. Wandering through
the streets, gazing upon the signs and
inquiring, from time to time, for a situation, he finally passed through Maiden
Lane, where he espied, in front of No. 115,
a small sign containing the name: "George
Briggs, Manufacturer of Steel Squares."
Whether the circumstance of noticing this
sign, which told the place of one of the sign, which told the place of one of pioneer manufacturers of American hard-ware, had any influence in causing the young man to enter that store to apply for work, or whether it was without special thought or motive that he solicited an engagement at that particular place, it is at this time impossible to determine; but that this time impossible set great store upon the set great store upon the for some reason, and treasured it in the country at that in the country at that

something less than ten years, and yet, to the credit of Yankee ingenuity be it recorded, they were made at this time by machinery, the several parts passing through some twenty different operations, and the finished article being so good that it was were being so good that it was were manufacture of table cuttery was scarcely ten years old. Brass hinges were beginning to be made in this country, although the bulk of the goods of this kind sold still came from Birmingham. A sickle factory had been in operation at Pittsburgh not quite ten years, and two factories for the making of saws, one at Boston and one in New York, had been running for almost the same length of time.

It was only a little over ten years since the first store for the sale of American hardware had been on pened. This interesting event occurred in Philadelphia in 1827. In 1828 a store for like purpose had been in leave the period of the special purpose had been in the first store for like purpose had been in the first store for like purpose had been in large and to profit by the results of the same for like purpose had been in large and to profit by the results of the same for lines. The financial difficulties of crops in 1837 and 1838, made the outlook a glosmy and discouraging one. Banks were in the same length of time.

It was only a little over ten years since the same length of time.

It was only a little over ten years since the first store for the sale of American hardware had been opened. This interesting event occurred in Philadelphia in 1827. In 1828 a store for like purpose had been in the first store for like purpose had been in the first store for like purpose had been in the first store for like purpose had been in large factory that the credit of Market Pascal Trank, the first store for the sale of American hardware had been opened. This interesting event occurred in Philadelphia in 1827. In 1828 a store for like purpose had been in the first store for like purpose had been in the first store for like purpose had been in the fi

you for it."

From 115 Maiden Lane the business was moved, in 1846 or '47, to No. 9 Platt street. Thence, in 1857, it was carried to 243 and 245 Pearl street and 18 and 20 Cliff street, where it remained until 1877. In the latter year it was removed to 107 Chambers and 91 Reads street, these several removes of the establishment representing changes which

of Reads street, these several removes of the establishment representing changes which have taken place in the location of the hardware trade in this city.

The first year of the war was very disastrous to the hardware trade generally. Many houses which had been in existence for a long time, some of them being even older than the original house to which Bliven & Mead had succeeded were event event. Many houses which had been in existence for a long time, some of them being even older than the original house to which Bliven & Mead had succeeded, were swept away by reason of the depression in trade, and in some cases by the loss of balances due them from customers in the south. The firm of Bliven & Mead, however, weathered the storm, and was ready to take advantage of the change which soon set in. It was in the midst of this depression in 1861 that the first general catalogues of American hardware were issued, being put forth by this house and by Messrs. Platt & Co., of Buffalo. These two books may be regarded as the pioneers in the matter of hardware trade catalogues, now so very common. During the progress of the war, many goods were furnished to the various departments of the government by this house. Several expeditions were fitted out by this firm, so far as concerned their equipment in the hardware line. Both of the "Burnside" expeditions and the "Banks" expedition which went to New Orleans, received the most of their equipment from the warehouses of Bliven & Mead. In 1863 the Continental Screw Company was undertaken in an attempt to compete with the monopoly of the American Screw Co., which concern was not giving satisfaction to the jobbing trade generally, by reason of making little or no difference in the prices of its goods between them and small purchasers. The new organization was to be the hardware dealers' company. The capital was fixed at \$1,000,000, and was to be placed with the hardware dealers, who were also to be its customers. By special courtesy a very small amount of the stock was allotted to some friends of the promoters of the enterprise who were

were also to be its customers. By special courtesy a very small amount of the stock was allotted to some friends of the promoters of the enterprise who were engaged in the dry-goods trade. But with this exception, the original idea was carried out. Mr. Bliven took a special and personal interest in the organization of this company. In many cases he waited personally upon the parties whose subscriptions to its stock were desired. Ho made several trips to other cities upon errands of this kind. In something less than 60 days from the commencement of the enterprise, the entire amount of the stock had been subscribed, with several hundred been subscribed, with several hundred been subscribed, with several hundred thousand dollars in excess, and the company started apparently with fair promises of success. Mr. Bliven was made president of the company, and although up to that time his experience in trade had been rather that of a jobber than a manufacturer, he rapidly made himself acquainted with the needs of a manufacturing each blickness. manufacturing establishment. The basis in point of machinery upon which this company started, consisted of several inventions made by Mr. H. A. Harvey, the son of one of the inventors of the machinery of the ma ery in use by the American Screw Company, which had been perfected in an attempt to evade all existing patents. While successful in this particular, it was soon discovered that in many respects this mathician will be a successful that in many respects the mathician successful that in many respects the mathician successful that it is many respects the mathician successful that it is successful. chinery did not equal that employed by the old concern. Mr. Harvey had originally made an arrangement for the use of this machinery with Byron Sprague and Geo. A. Davis, of Providence. These gentlemen almost immediately associated with themselves Mr. Bliven, and together they proceeded to organize the company, as described above. In the course of time ground was bought in Jersey City and a large building was erected and equipped. But the manufacture of Was asked what compensation he desired. He replied that he valued his services at \$450 a year. Mr. Briggs was willing to pay but \$350 a year. Mr. Briggs was willing to pay but \$350 for the first year, condition of the foreign article. Only five years his account \$100 during that period.

A moment's attention in passing, to the condition of the trade in this country in 1838 may be profitable. American hardware was in its veriest infancy. George Briggs, with whom Bliven engaged; was of the first manufactured and been chronicled. The number of the first manufacturers of American hardware was a blackmaint by trade, and up to about that time has been and forged his own goods. Pocket knives had been manufactured in the United States.

In a however, is said to have been so time, however, is said to have been so time, however, is said to have been set manufaction, the American hand time, however, is said to have been set manufaction the American hand the circle of his enterprises, until the sound of his hammers rung through the whole extent of the populated portion of the circle of his achievers, with whom the whole extent of the populated portion of the whole extent of the whole extent of the populated portion of the whole extent of the whole extent of the whole extent of the whole screws with the deficient machinery already



THE LATE CHARLES BLIVEN

In spite of temporary checks and adverse legislation, the American manufacturer steadily widened the circle of his enterprises,

arkable activity which was developed in business, remaining, however, a special merican manufactures during the ensuing partner in the firm of Bliven & Mead, which w years.

Was organized in order to continue the business. Up to 1850 this firm confined itself alwhich American manufactures began to be established upon a solid and permanent hold of every new thing that was produced, foundation. From this time forth the progress made in the production of various this time, however, finding that it was negoods was so rapid that the historian of the period says: "It is no longer possible to trace the progress of American manufactures in detailed statements or isolated facts. cated at Solingen and Elberteld, Prussia. Business prospered with the young men, and in 1852 they were able to buy out the interMetals.

ANSONIA BRASS & COPPER CO..

COPPER BRASS AND

Sheets, Bolts, Rods, Wire, &c. Seamless Brass & Copper Tubing.

Ansonia Corrugated Stove Platforms. PURE COPPER WIRE

For Electrical Purposes, Bare and Covered. Phosphor Bronze Rods for Pumps, &c.

ANSONIA REFINED INCOT COPPER. PHELPS, DODGE & CO.

IMPORTERS OF TIN PLATE,

ROOFING PLATE,

Sheet Iron, Copper, Pig Tin, Wire, Zinc, &c.

MANUFACTURERS OF COPPER AND BRASS.

NEW YORK.

SCOVILL MFC CO

BRASS,

HINGES, WIRE, GERMAN SILVER PHOTOGRAPHIC GOODS.

BUTTONS, CLOTH AND METAL.

DEPOTS, 419 & 421 Broome St., N. Y. 112 Federal St., Boston. 183 Lake St., Chicago,

FACTORIES, Waterbury, Conn. New Haven, Conn. New York City.

DICKERSON, VAN DUSEN & CO., Importers of

Tin Plate, Pig Tin, Sheet Iron, Copper, Wire, Zinc, Etc. 29 & 31 CHf St., cor. Fulton,

DICKERSON & CO., Liverpool.

THE TRENTON IRON COMPANY.

TRENTON, NEW JERSEY, MANUFACTURERS OF

BRIGHT, ANNEALED, COPPERED, TINNED AND GALVANIZED; Iron and Steel Wire Rods:

EXTRA QUALITIES OF BAR IRON AND RODS. Best Qualities of Gun-Screw and Charcoal Iron Wire; Crucible, Siemens-Martin and Bessemer Steel Wire.

Wire Straightened and Cut to Lengths. Represented in New York by COOPER, HEWITT & CO., 17 Burling Slip.

BRODERICK & BASCOM,



STEEL

800 N. Main St.,





The Cheapest Fencing in the World.

Is adopted by Railroads, by Stock Raisers and by Farmers generally throughout the West. One Dealer wanted in each town to act as agent.

THORN WIRE HEDGE CO..

34 and 36 Canal St., Chicago, Ill.

Metals.



Waterbury Brass

CAPITAL, - - \$400,000. Sheet, Roll and Platers' Brass,

GERMAN SILVER. Copper, Brass and German Silver Wire, BRASS AND COPPER TUBING,

COPPER RIVETS & BURS, BRASS KETTLES,

Door Rail, Brass Tags, PERCUSSION CAPS, POWDER FLASKS,

Metallic Eyelets, Shot Pouches, Tape Measures, &c. And small Brass Wares of every Description. Cartridge Metal in Sheets or Shells a Specialty Sole Agents for the Capewell Mfg. Co.'s Line of Sport-

ing Goods and Wood's Paper Shot Shells. Mills At DEPOTS: 296 Broadway, New York, WATERBURY,

Manhattan Brass Co.,

189 Eddy St., Providence, R. I.

Sheet Brass, Brass Wire, Copper Wire, Copper Rivets, Zinc Tubing,

Olmsted Patent Oilers, Prior Patent Oilers, Broughton Patent Oilers, Brass, Tin & Zine Oilers, Brass Butt Hinges, Hurricane Lanterns.

Conn.

Fire Sets, Fenders, &c. BRASS BLANKS & TUBES

OF EVERY DESCRIPTION TO ORDER. Office, 83 Reade cor. Church St., N. Y. Works, 1st Ave., 27th to 28th St., N. Y.

THE NEW HAVEN COPPER CO.,

255 Pearl Street, New York.

Braziers' & Sheathing COPPER.

Kettle Bottoms, Bolts, Circles, Rivets, NEW YORK. Ingot Copper, Spelter, Solder, &c.

CHAS. HEWITT, PRESIDE

ROLLED AND IN SHRETS.

BRASS & COPPER WIRE,

Tubing, Copper Rivets & Burs.

JACK CHAIN, DOOR RAIL.

Kerosene Burners, &c.

JOHN DAVOL & SONS

Pure Spelter

Also for Galvanizers & Brass Founders.

Geo. W. Prentiss & Co.,

HOLYOKE, MASS., WIRE.





See page 34.

Metals.

The Plume & Atwood Mfg. Company,

MANUFACTURERS OF

SHEET and ROLL BRASS and WIRE,

German Silver and Gilding Metal,

Copper Rivets and Burs,

Kerosene Burners, Lamp Trimmings, &c.

80 Chambers Street, New York. 13 Federal Street, Boston. 109 Lake Street, Chicago. Rolling Mill, Factories,

THOMASTON, Ct. WATERBURY, Ct.

Bridgeport Brass Co.,

MANUFACTURERS OF

Sheet and Roll Brass, Brass & Copper Wire & Tubing, German Silver Metal and Wire, Copper and Iron Rivets.

OILERS and CUSPADORES, | LAMPS and TRIMMINGS, LANTERNS and TRIMMINGS, KEROSENE BURNERS, Clocks & Fly Fan Movements. PLUMBERS' MATERIALS. Particular attention paid to cutting out Blanks and nanufacturing Metal Goods.

MANUFACTORY,
Bridgeport, Conn. | WAREHOUSE,
19 Murray St., N. Y

Harrison Wire Company

CHAS. FISH

Prest. and Treas MANUFACTURERS OF

All kinds of

IRON & STEEL WIRE

Wire Mill Specialties.

Holmes, Booth & Haydens, WATERBURY, CONN.

NEW YORK. 18 Federal St 49 Chambers St.

Brass, Copper & German Silver,

BRASS & IRON German Silver Spoons,

SILVER PLATED FORKS & SPOONS

Brooklyn Brass and Copper Co.

Ingot Copper, Spelter, Lead, Tin, Antimony, Solder & Old Metals.

Cartridge Brass, Gas Fixtures, Bronzes AND ALL PINE WORK.

MANNING & SQUIER, Gen'l Agents 113 Liberty Street, N. Y.

Bright, Coppered, Annealed and Ti



Mire, etc.

CHARLES F. WASHBURN, Washburn & Moen Mfg. Co.

Established, 1831. Capital, \$1,500,000 WORCESTER, MASS.

DRAWERS

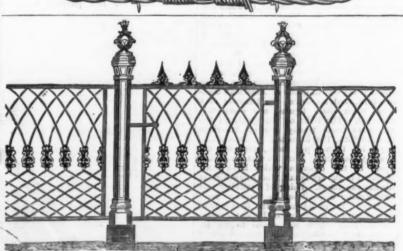
Patent Galvanizing, Rolling and Tempering. MANUFACTURERS OF

IRON, AND IRON AND STEEL WIRE. Of Every Description.

A SPECIALTY MADE OF

GALVANIZED TELEGRAPH WIRE, GALVANIZED TELEPHONE WIRE, PATENT STEEL WIRE BALE TIES, PATENT STEEL BARB FENCING, AND PUMP CHAIN.

NEW YORK OFFICE: ST. LOUIS OFFICE: CHICAGO OFFICE 215 and 217 Lake St.



NATIONAL WIRE & LANTERN WORKS. Warehouse, 45 Fulton St. N. Y. HOWARD & MORSE,

Manufacturers of Brasil, Copper & Iron Wire Cloth, Locomotive Spark Wire Cloth, Iron Wire Bolting Cloth, Ship and Railroad Lanterns, Signal Lights, Conductors' Lantern, Adjustable Globe Hand Lantern, Desk & Office Railing, Riddles Coal & Sand Screens, Nursely Fenders & Spark Guards, Ornamental Wire Fence.

WORKS

ROEBLING'S

TRENTON,

New York Office Warehouse

117 Liberty Street JOHN A. ROEBLING'S SONS CO.,

WIRE ROPE

Iron, Steel and Copper,

Hoisting Purposes of all kinds, for Ferries, Stays, Ship Higging, Sash Cords, Lightning Rods, &c., &c.

GALVANIZED Telegraph Wire. Market Wire,

Iron and Steel WIRE

Marke t Wire, Fence Wire Bridge Wire, Chain Wire, Buckle Wire, Spring Wire, Rivet Wire, &c., &c.

Vineyard Wire. Suspension Bridge Cables. CALVANIZED WIRE CLOTHES LINES.

For Hoisting, Running & Standing Ropes, Ferries, &c.

Address, HAZARD MFG. CO., Wilkesbarre, Luzerne Co., Pa. J. LLOYD HAIGH,

Cast Steel, Bessemer Steel & Iron Wire

WIRE ROPE FOR Mines, Elevators, Inclined Planes, Derricks, Stays, Ship R 'tgoing, Sash Cord, CALVANIZED WIRE CLOTHES LINIES. SUSPENSION BRIDGE CABLES.

Bright, Coppered, Annealed, Tinned, Rivet, Spring, Machinery, Chain, Buckle, &c. Also Fence and Vineyard Wire. Galvanized Steel Barb FENCING WIRE, Plain and twisted, and Stafples. Galvanized Telegraph Wire, Patent Tempered Cast Steel Furniture Springs. OFFICES: { 81 John St., New York.

WORKS-South Brooklyn. J. WOOL GRISWOLD.

> Manufacturer of WIRE. TROY, N. Y.

WM. F. ILER, Trov Wire Mill, TROY, N. Y.

Manufacturer of ALL KINDS OF WIRE. Orders a mediate p R. 8 Dea

INSTAI ELEC

No. 1, 1

No. 53

Pate

P. O. B

Hardw

Man

RC

Tin Pi



O. LINDEMANN & CO.

BIRD CAGES. Being the in ventors and paten ees of BRIGHT METAL

> 254 Pearl St., NEW YORK

CARY & MOEN,

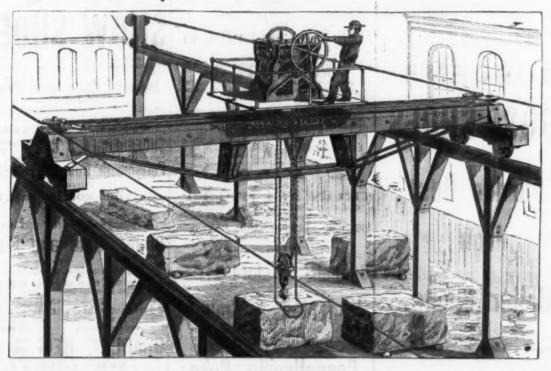
STEEL WIRE for all purposes and STEEL SPRINGS of every description.



Market Steel Wire, Crinoline Wire, to Patent Tempered Steel Furniture Springs, constantly on hand

WESTON'S PATENT TRAVELING CRANE

Machine Shops, Foundries, Stone Yards, &c.



All the various motions of the machine, including the raising and lowering of the load and the traversing of the crab or bridge in any desired direction, can be effected by the operator from the platform on which he stands. He can cause the crab to travel in either direction on the bridge, or the bridge to travel in either direction on its tracks, or he may combine the motions and cause his load to move diagonally in any direction. Crank handles cannot fly back, Accidents impossible.

MADE ONLY BY THE

YALE LOCK MFG. CO.,

Correspondence Solicited.

el

ire,

STAMFORD, CONN.

WIRE RAILING

Ornamental Wire Works.

DUFUR & CO.,

No. 36 North Howard St., Baltimore.

Manufacture WIRE RAILING for Cemeteries, Balconies, &c.; Sieves, Fenders, Cages, Sand and Coal Screens, Woven Wire, Iron Bedsteads, Chairs, Settees, &c.

INSTANT REPRODUCTION WITHOUT PRESS OR DAMPING.

EVER Y ONE HIS OWN PRINTER.

ELECTRIC PEN, PAPYROGRAPH, &c., COMPLETELY OUTDONE.

One to two hundred copies of Letters, Circulars,
Price Lists, Stock Lists, Reports, Plans, Drawings,
Specifications, Music, &c., in various colors, at one
operation.

Copies can be made on any kind of paper without previous preparation; copies can also be
made on Muslin, Linen, Leather, Silk, Wood, &c.
PRICES.

No. 1, Note Size, \$3, No. 2, Letter Size, \$5. No. 3,
Legal Size, \$7, 50 each.

ED. H. NIXON,
Inventor, Proprietor and sole Manufacturer, No. 59 Maiden Lane, NEW YORK CITY.

TACKLE BLOCKS BURR & CO.,

Manufacturers of Waterman and Russel's Patent Iron Strapped Blocks. ROPE STRAPPED BLOCKS. 31 Peck Silp. New York.

S. L. SAMUEL. P. O. Box 1300. 57 Cedar St., N. Y. Manufacturers' EXPORT Agent for Hardware, Brassware, Classware, Wooden Ware, Elassware, Wooden Ware, Wicks, Oil.
Late Agent for Wh. H. Santell. & Co.
Orders and direct will save the purchaser all intermediate profits.

R. SELLEW & CO. Dealers in METALS, Tin Plate, Sheet Iron, Copper, &c. BAINT LOUIS,

MONITOR TIN PLATE WORKS.

54 Cliff Street, New York,

LARGE TINNED SHEETS for DAIRY and OTHER PURPOSES, COTTON CANS, Guaranteed Equal in Every Respect to Best Imported.

NIXON'S CHEIROGRAPH. No Copyling Press Required. Most Simple Process Invented. INSTANT REPRODUCTION WITHOUT PRESS OR DAMPING. INSTANT REPRODUCTION WITHOUT PRESS OR DAMPING.

Sheet, Tank and Plate Iron, Nails, Glass, Horse Shoes, Horse Nails, and other articles of HEAVY HARDWARE.

CLEVELAND, OHIO.

N. & G. TAYLOR CO., Philadelphia. ESTABLISHED 1810.

Manufacturers, Importers and Dealers, Wholesale and Retail, in all kinds of

TIN PLATES.

cialty for sizes used in the manufacture of N. & G. TAYLOR CO. Cheese Vats. Cream Pans, Milk Cans, Milk Cans, &c. Send for our special price

Can make any size

THE CELEBRATED DECOY TRAP.

de on the land

E. OLIVER,

No. 106 and 108 Beekman St., N. Y. MANUFACTURER OF

Every description of Wire Cloth, Wire Window Guards, Bank and Office Railing, Moulders' Riddles, Decoy Rat and Mouse Traps, Wood and Metallic Flour and Meal Sieves, Dish Covers, &c.,

At the Lowest Prices.

time, retiring. The works were run in this way for a year, to test the question whether it was as cheap to manufacture with the labor in and about New York, as with the labor to be had at Providence. At the expiration of the year the scheme was formed to consolidate the two companies upon the basis of interchange of stock. This arrangewas carried into effect, thereby wiping out the corporate existence of the Continental Screw Company and reproving its effects. Screw Company, and removing its effects from Jersey City to Providence. Mr. B.iven was opposed to this consolidation from the first, believing that when the from the first, believing that when the patents upon the machinery used by the American Screw Company expired, which would occur in a very short time, there would be a fair opportunity for the Continental Screw Company to compete for trade and to make money. He, lew ever, submitted to the wishes of the majority, and the scheme for consolidation was carried. and the scheme for consolidation was carried into effect.

About this time also the Peru Steel and Iron Company was formed, being organized through the active instrumentality of Mr. Bliven. The suggestion of buying the Saultus Iron Works, a concern located at Clintonville, in the northern part of New York, was made. This concern had been in operation for something like 30 years. Its property was very extensive, owning something like 25,000 acres of land, equipped with all that belongs to a large manufacturing con-cern, having, in addition to its furnaces and rolling mills, houses, stores, grist mills and roung mins, nouses, stores, grist mins and all that is necessary to maintain such an enterprise in active existence. Mr. Bliven made a thorough personal examination of the entire property before advising the purchase. The fidelity with which he inquired into the former operations of the concern, examined its mills and investigated its mines, looked over its records, and in every other way posted himself upon its condition, was characteristic of the man. His representation was immediately acted upon, and an organization was formed and the prop-erty purchased. Mr. Bliven was not in ererty purchased. Mr. Bliven was not in error in his opinion of the enterprise. The
company which he was instrumental in
organizing, and of which he held the
presidency to the end, was successful in
conducting the business from its commencement up to the time it was overtaken,
in common with all iron manufacturing
concerns, by the hard times of the past few
vears

The commencement of the Hart Manufac-The commencement of the Hart Manufacturing Co., which was consolidated with the concern of Bliven & Mead in 1866, dates back to 1838, the year of Mr. Bliven's arrival in New York. Mr. J. T. Hart commenced the manufacture of a few articles in that year, afterward adding to his line of trade from time to time. Bliven & Mead sold his goods in New York, and ere long became associated with him in his manufactured. became associated with him in his manufac became associated with him in his manufac-turing business. In 1854 the business was reorganized under the style of the Hart Manufacturing Co., with J. T. Hart as presi-dent and Bliven & Mead as New York agents. In 1866 Bliven & Mead sold their business to the Hart Manufacturing Co., at which time Mr. Blivon became president. The business was conducted under this name until 1873, when the style was changed to the Hart, Bliven & Mead Manufacturing Co. This concern maintained a prosperous existence until overtaken by the hard times and depression of trade, which have so severely tried all business houses the last few years. tried all business houses the last few years. Its sales in some years have exceeded \$1,500,000 and it ranked as one of the largest houses in the trade. In the wind-up of its affairs its works, tools, machinery &c., were absorbed by the Peck, Stow & Wilcox Co., which has succeeded to its business, and Mr. Charles J. Bliven, eldest son of the deceased, has become associated with the deceased, has become associated with the Peck, Stow & Wilcox Co. in this con

Besides the concerns already named, Mr. Bliven was associated as stockholder and in the management of others, among which may be mentioned the Branford Lock Works, the Broadway Savings Bank, and the Franklin and Emporium Fire Insurance Co. He was also a stockholder in the Peck, Stow & Wilcox Co., the Ætna Iron Works and the Nicholson File Co. During the oil excitement Mr. Bliven became interested in some petroleum lands, and organized what was called the Bliven Petroleum Co., a conern which has maintained an existence to this day, passing through periods of varying merce should continue to warrant the ex-

fortune.

Mr. Bliven was very much devoted to his family, and was exceedingly liberal in providing for the wants of his household. He was very active among his friends, of which he had many. His attention to business was excessive. No detail in the various establishments in which he was interested was of too trivial importance to domand his notice. Thoroughness at the demand his notice. Thoroughness, at the expense of severe and protracted personal exertion, was characteristic of him. It is related of him that the sample goods which went with the show-cases of the Hart, Bliven & Mead Co.'s exhibit at the Centennial were all put in place by his hands, although at the time he was very busy in other di-

Mr. Bliven was something of a gymnast and athlete. He was fond of out-door sports.
It is stated that he and Prof. Loomis, of the New York University, were the two best vaulters in the Metropolitan Gymnasium of New York. He was fond of horseback rid-ing and fishing, and was considered an ex-pert with the hook and line. Some years since he took an active interest in the Yonkers Cricket Club, and in that connec-tion played against the first English eleven that came to this country. In this contest, by means of a leg ball, he sustained a sprained ankle, from which he never fully

arrangement was finally perfected, and the works of the Continental Screw Company passed into the administrative control of the American Screw Company, Mr. trol of the American Screw Company, Mr. Bliven, who had been president up to this time, recirring. The works were run in this way for a year, to test the question whether it was as cheap to manufacture with the self for burial. Finally he folded his hands across his breast, and, after expressing his satisfaction that all had been made ready, died in that position.

Spanish Iron Ore Deposits.

The iron ore deposits of Spain have for some years attracted much attention, which has, however, almost exclusively been directed to the well-known mines of Somorrestro near Bilbao. Description of the iron ore deposits of Spain have atmost exclusively dealt with that district, so that an idea has been created that the supplies to foreign markets are drawn from Bilbao alone. Such is not the case, as shipments, though com-partively small, are made from other parts of Spain also, which have been neglected and may, perhaps, offer favorable opportunities for enterprise. Spain is extremely rich in large and pure deposits of iron ore, but the absence of suitable fuel in considerable quantities, and the lack of enterprise of its inhabitants, render all those mines not situated in the provinciant of the considerable and the provinciant of the considerable and the provinciant of the constant innabitants, render an those mines not situated in close proximity to the coast value-less. Those, however, which are accessible by sea are worthy of attention. Among them we may mention that of Guipuzcoa, which were known and worked by the ancients and now yield limited quantities of ore, taken both from the palaeozoic and cretaceous formations. The chief producers cretaceous formations. are the mines of San Miguel, from which 30,000 tons are sent annually to Montlucon, France, and it is reported that the means of transportation are to be improved, in order to open out an export trade to England. Other deposits of the adjoining groups of Monte-Aya, Berastegui, Cerain and Mutiloa are rich in brown hematites, manganiferous are rich in brown hematites, manganiferous red hematites, colithic and spathic ores. In the province of Malaga, is the famous Ojen (or las Chapas) deposit, which is suituated on the slope of the Sierra Blanca, and is connected by railway (4 miles in length) with the port of Marbella. The ore is interstratified in beds of dolomitic limestone, which are worked in large control is large even with the parts of the provided in the control of worked in large open pits, the annual output, chiefly exported to England, amounting to from 50,000 to 60,000 tons. There are other mines in the same province, for in-stance, the Serrania de Ronda, but their dis-tance from tidewater, and the absence of railway connections, make them unimportant for the export trade. In Navarre numerous mines of oolithic

ores and limonites are awaiting early development. The most important are the deposits of brown and red manganiferous hematite of Vera and Lesaca, near Bidassoa, which are found at the contact of granite and palaeozoic rocks, and the veins of manganiferous spathic ore, in the latter formation. Extensive preparations have been made to ship these ores to England and France, and it is expected that the output, which has until now been only 20,000 tons per annum, will quickly rise, as both the port of Fontarable and the railway station port of Fontarabie and the railway station of Hendaye are convenient outlets. The province of Almeria sends to England about 75,000 tons of ore per annum, the chief producer, the Mathilde mine, working on a deposit in metamorphic rock, near the cape of Gate, at las Herrerias. The entire coast range from Aguilas to the cape of Gate, is said to be rich in iron mines. Another district, which is shipping ore to England quite extensively, is that of Murcia, there being a number of mines along the coast from Palos to Aguilas, which together send nearly to Aguilas, which together send nearly 120,000 tons. The most important group is that near Mazarron, the ores from which that near Mazarron, the ores from which are remarkably pure and very abundant. The output of the mines of the province of Santander, about 70,000 to 80,000 tons, also goes chiefly to England, the principal group of mines being that of Camargo. The province of Seville is also the seeme of some activity in mining, which is chiefly concentrated in the workings of the Pedrose district where the workings of the Pedroso district, where beds from 40 to 70 feet in thickness are ex-tracted in open pits. The whole production does not exceed 20,000 tons per annum, of which one-tenth is used by local iron works, while the rest is sent to England by way of the Marida and Seville Railroad. It will the Merida and Seville Railroad. It will be seen, therefore, that there are numerous points near the Spanish coast where iron ores can be mined, probably at a low cost and of good quality, if the relations of comportation to foreign countries.

The Profits of Early Steam Navigation.—The following memorandum by Robert Fulton, accompanying a letter sent on Dec. 23, 1812, to William Short, of Kentucky, shows how handsome were the profits of early steam navigation: "The New Orleans Steamboat is in 29 shares of \$1,000 each Steamboat is in 28 shares of \$1,000 each original subscription, \$28,000. The subscribers are first to divide the ten per cent on each share of \$1000, and the surplus profits to be equally divided, one-half to the subscribers and one-half to the patentees. On these conditions the reasonable calculations of profits are as follows: The boat can be the subscribers and one-half to the patentees. make 15 trips per annum between New Or-leans and Natchez up and down, and oach trip will give \$2500, \$37,500 gross receipts; expenses, \$10,000—\$27,500; from this to per cent on \$28,000, \$2800—\$24,700; half of this also to subscribers, or \$12,350, which, added to the 10 per cent, or \$2800, gives \$15,150 to be divided on \$28,000, which is more than 50 per cent. It is equal to \$5.41 a share, and will be for \$1300 near 42 per cent., but deducting all casualties, and say 30 per cent., it is great interest. R. FULTON." great interest.

Mr. E. A. Cowper, in a paper read re-cently before the British Association at Sheffield on the Siemens-Cowper-Cochrane His life was very much wrapt up in his business, in which he maintained a reputation for the strictest integrity. His close attention to it and his watchfulness over all the details is characterized by a diary and full set of books showing all his transactions, kept by himself, and faithfully written each day. The forethought which NEW YORK.

OGDEN & WALLACE. IRON& STEEL,

85, 87, 89 & 91 ELM ST., N. Y. MIDVALE STEEL WORKS

A full assortment constantly on hand of Cast, Machinery, Tool, Spring, Tire, Sleigh Shee, Toe Calk, Plew and Blister Steel. Orders solicited for Steel Tyres and Axles, Steel Forgings and Castings.

PIERSON & CO.,

24 Broadway, New York City.

COMMON & REFINED IRON, Hoops, Rods, Scrolls, Bands, Ovals, Horse Shoe, Nail Rods, Steel, &c.

Orders promptly filled from stock.

ABEEL BROTHERS, Katablished 1765 by ABEEL & BYVANCK,

Iron Merchants, 190 South Street and 365 Water, N. Y.

ULSTERIRON A full assortment of all sizes constantly on hand.

Horse-Shoe Iron. Common Iron. Band, Hoop and Scroll Iron. Sheet Irea. Norwa Nail Rods. Norway Shares. Cast, Spring and Tire Steel, etc.

Refined Iron,

R. Whitney,

48, 50 & 52 Thomas, and NEW YORK.

Our specialty is in Manufacturing Iron Used in the Con-

struction of Fire-Proof Buildings,
Bridges, &c.

Plans and estimates furnished, and contracts made for erecting Iron Structures of every description.
Books containing cuts of all Iron made sent on application by mail.

Sample pieces at office. Please address
58 Hudson Street.

BORDEN & LOVELL, **Commission Merchants**

70 & 71 West St., New York.

Fall River Iron Co.'s Nails, Bands, Hoops & Rods.

Borden Mining Company's Cumberland Coals.

WILLIAM H. WALLACE & CO., IRON MERCHANTS

Cor. Albany & Washington Sts., NEW YORK CITY.

WM. BISPHAM WM. H. WALLACE.

DANIEL F. COONEY, (Late of and Successor to Jan. H. Holdane & Co. 88 Washington St., N. Y.

BOILER PLATES and SHEET IRON,
LAP WELDED BOILER FLUES,
Boiler Rivets, Aagle & Tiron, Cut Nails & Spikes,
Agency for Pottstown Iron Co., Viaduct Iron Works,
Lebanon Rolling Mills, Pine Iron Works, Laurel Iron
Works, The Bergen Rolling Mills, at Jersey City.

CRAY ENAMEL WARE. W. T. WELLS, Sole Agent for FOXELL, JONES & CO., is now prepared to supply the wholesale trade only with Plain, Ground, Enameled and Tinned

HOLLOW WARE. Gray Enamel Maslin Kettles and Stove Ware a specialty. This is the most durable enamel in the market Office and Warehouse. 78 Beekman St., N. Y

P. W. GALLAUDET. Banker and Note Broker,

Nos. 3 and 5 Wall Street. NEW YORK.

HARDWARE, METAL, IRON, RUBBER, SHOE, PAPER AND PAPER-HANGINGS, LUMBER, COAL AND RAILROAD PAPER WANTED. ADVANCES MADE ON BUSINESSS PAPER AND



Aron.

NEW YORK.

A. B. Warner & Son, 28 & 29 West and 52 Washington Sts. BOILER PLATE,

Beller Tubes, Angle, Tee & Girder Iron Beller and Tank Rivets. Sole Agents for the celebrated

"Eureka," Pennocks, "Wawasset," Lukens,

Brands of Iron. Also all descriptions of Plate, Sheet and Gasometer Iron. Special attention to Locomotive iron. Fire Box Iron a specialty.

Powerville Rolling Mill

OFFICE & YARD, 450 & 451 West Street Cor. Bank Street, NEW YORK.

HORSE SHOE IRON. Toe Calk Steel, Charcoal Scrap Blooms, And Dealer in Scrap Iron. Rehoboth Furnace, - Iron Station, N. C COLD BLAST CHARCOAL PIG IRON.

ROME MERCHANT IRON MILLS, HOME, N. Y., Manufacturers of the best grade of

Bar Iron, Bands and Fine Hoops. Scrolls, Ovals, Half Ovals, Half Rounds, Hexagon and Horse Shoe Iron. Also from Charcoal Pig a superior quality of Iron branded J. G. All puddled balls re-duced by hammer. Orders may be sent to the Milo to J. O. CARPENTER, our Agent, at 39 John Street, New York.

MARSHALL LEFFERTS, 90 Beekman St., New York City, MANUFACTURER AND DEALER.

Galvanized Sheet Iron,

1st and 2d Qualities. Gaivanized Wire, Telegraph and Fence; Gaivanize Hoop and Band Iron, Gaivanized Rod and Bar Iron Gaivanized Nails, Gaivanized Chain, Gaivanized Iro-Pine.

CORRUGATED SHEET IRON For Roofing, &c., Galvanized, Plain or Painted. Best Charcoal, Best Refined and Common SHEET IRON.

Plate and Tank Iron. C No. 1, C H No. 1, C H No. 1 Flange, Best Flange lest Flange Fire Box, Circles.

> BOILER IRON Stamped and Guaranteed.

All descriptions of Iron Work Galvanized or Finned to order.

Price list and quotations sent upon application

JAMES WILLIAMSON & CO.,

SCOTCH AND AMERICAN PIG IRON,

No. 69 Wall St., New York.

B. F. JUDSON, Importer of and Dealer in SCOTCH AND AMERICAN

Pig Iron.

Wrought & Cast Scrap Iron, OLD METALS.

457 & 459 Water St.; NEW YORK

ULSTER IRON WORKS

90 Broadway, New York.

O. W. GRAVES & CO., METAL BROKERS.

Cor. Cliff and Beekman Sts., New York. TIN PLATE, PIG TIN, IRON WIRE, SHEET IRON, BRASS and COPPER GOODS, &c.

Passaic Rolling Mill Co., PATERSON, N. J. Iron Bridge Builders

And Manufacturers of Beams, Channels, Angles, TEES.

Merchant Iron, &c., &c. New York Office, 138 Chambers Street,

WATTS COOKE, President. W. O. FAYERWEATHER, Treasurer.

W. J. Carmichael. Iron & Steel Boiler Plate

Lap Welded Boiler Tubes, &c., &c.
130 & 132 Cedar Street, New York.

Agent for Otis' celebrated Cast Steel Boiler Plates, The
Coatesville Iron Co. and The Laurel Rolling Mills.

Aron.

NEW YORK

John W. Quincy, 98 William Street, New York

Anthracite & Charcoal Pig Irons,

Wrought Scrap, Cut Nails, Copper, BLOCK TIN, LEAD, SPELTER, ANTIMONY, NICKEL, &

HARRISON & GILLOON IRON AND METAL DEALERS, 360, 562 WATER ST., and 302, 304, 306 CHERRY ST.,

ave on hand, and offer for sale, the following:
Scotch and American Pig Iron, Wrought, Cast and
schinery Scrap Iron, Car-Wheels, Axles and Heavy
rought Iron; also old Copper, Composition, Brass,
lad. Pewter, Zinc, &c.

OXFORD IRON CO., (B. G. CLARKE, Receiver,)

J. S. SCRANTON, Sales Agent, 81, 83 and 85 Washington Street,

SPIKES.

BURDEN'S

Burden Best" Iron

Boiler Rivets.

Burden Iron Works, H. Burden & Sons,

Troy, N. Y.

Houdlette & Ellis, MERCHANT BAR IRON

Homogeneous Steel and Iron Boiler Plates.

Homogeneous Steel and Iron Boiler Flates.

Sheet and Tank Iron. Boiler, Tank and Safe
Rivets.

Best Lap-Welded Iron Boiler Tubes.

Wrought Iron Girder, Deck, and Channel Boams.
Angle, T and Grooved Iron.

Steel and Iron Forgings, Bessemer Steel Cut Nails.
Genuine and Standard Babbitt Metals,
Croscent Brand Journal Bearings. 19 to 31 Batterymarch Street, Boston

A. PURVES & SON,

Corner South & Penn Streets, Phila., Dealers in

Scrap Iron & Metals, Machinery, Tools,
Shafting & Pulleys, Steam Engines,
Pumps & Bollers, Copper, Brass,
Tin, Babbit Metals, Foundry
Facings. Best Quality Ingot Brass.
Cash paid for all kinds of Metals and Tools.

N. M. HÖGLUND'S SONS & CO., Stockholm Swedish & Norway Iron of every description. Stock on hand at Boston, New York and Philadelphia. Importation orders s

GUSTAF LUNDBERG, 38 Kilby st., Bosto Tuckerman, Mulligan & Co Front Street. POTTS, Philadelphia Agent, 234 & 236 3 JOHN STARR,

Hardware & Metal Broker

MANUFACTURERS' AGENT. Halifax, Nova Scotia,

Representing in the Dominion of Canada seve: further Agencies. Satisfactory references

ROME IRON WORKS, Manufacturers of

Brass, Gilding Metal, Copper and German Silver (In Sheets, Rods, Tubing or Wire).

COPPER & BRASS RIVETS AND BURS.

Rome, New York. PHOSPHOR-BRONZE



Bearings. Pump Rods and Spring Wire

Phosphor-Bronze. Apply to The Phosphor-Bronze Smelting Co., Limited, AMERICAN FACING CO.

Fron.

PITTSBURGH.

W. D. WOOD & CO.'S



PATENT Planished Sheet Iron.

Patented March 14th, 1865; April 8th, 1873; Sept. 9th, 1873; Oct. 6th, 1874; Jan. 11, 1876 Guaranteed fully equal in all respects to the

IMPORTED RUSSIA IRON. and at a much less price. FOR SALE,

by all the principal METAL DEALERS In the Large cities throughout

THE UNITED STATES. And at their Office

111 Water Street, PITTSBURGH, PA The U. S. Iron and Tin Plate Co.

OF PITTSBURGH, FA.,
Manufacture to order

BEST REFINED CHARCOAL AND
POLISHED SHEET IRON,
Taggers Iron and Bessemer Steel Plate,
in quality and size to suit the wants of consumers. Also Best Charcoal Terne Plates in Special
Sizes, from 10x17 to 20x30.
Orders solicited. Inquiries promptly answered.
Address P. O. Box 24, Pittsburgh, Pa.
Works at Demmier, Allegheny Co., Pa.
Eastern Sales Agents:
1232 Market st., Phila.
114 John st., N. Y.
36 Oliver st., Boston.

C. KANE. IRON and STEEL Old Rails, Wheels, Axles, Springs, Scrap, Turnings, &c., PIG IRON, BLOOMS AND BAR IRON. Duquesne Way, near 6th Street, PITTSBURGH.

Bonnell, Botsford & Co., Iron, Nails & Spikes.

YOUNGSTOWN, OHIO. Connellsville Coke.

FRANCIS WISTER,

Hron.

PITTSBURGH.

A. G. HATRY.

Commission Merchant. Bar, Sheet, Tank, Boiler, Angle, T, and Railroad Iron,

And Railroad Equipment. Nails & Spikes Steel & R. R. Supplies, WINDOW GLASS, GAS PIPE & BORAX. PITTSBURGH, PA.

JUNIATA



Improved Snow Shoe Shapes.

Biandard Sizes. %x7-16, 11-16x7-16, ½x7-16, 13-16x7-16, ½x7-16, ½x½ STEEL TOE CALKS.

SHOENBERGER & CO., Pittaburgh. Portsmouth Iron and Steel Co.,

CAYLORD ROLLING MILL CO., Manufacturers of

Homogeneous Iron and Steel **Boiler Plate and Rivets.** Agricultural Steel and Steel Tire,

Morchant Bar, Hoop and Sheet Iron, Wrought Spikes, Fish Bars and Bolta. Office and Works:
PORTSMOUTH, OHIO.

J. C. LEWIS, Pres't and Gen'l Sup't. GEO. S. LEWIS, Sec'y and Treas. BRADLEY, REIS & CO., NEW CASTLE, PA.,

Manufacturers of every description of **PLATE & SHEET IRON**

ZUG &

Pittsburgh, Pa.,

Wheeler's Iron & Steel Combination Shafting,

Under license of the Combination Trust Co., Philadelphia. This Shafting is superior to any now on the market, and the attention of machinists is

particularly called to it and a trial order solicited. Prices furnished on application. LEECHBURG IRON WORKS. KIRKPATRICK, BEALE & CO.

FINE SHEET IRONS. TIN AND TERNE PLATES, made with Natural Gas as fuel.

Est. in 1840 by
JOHN ROACH. ÆTNA IRON CO., WM. J. FRYER, Jr
Manager.

ARCHITECTURAL IRON WORK FOR BUILDINGS. 86 to 108 Goerck Street, New York.

WROUGHT IRON. WROUGHT IRON.

Loofs. Stairs. Floors.
Bank-Vault Doors & Safes.
butters and Doors, with
Boiles, fruns Plates and
Boils, for Wood Beams.
Boiles, fruns Plates and
Boils, for Wood Beams.
Looking States.

Looking an d
Partitions. Lathing.
ky-Lights. Floor-Lights.
ook-Safe Doors.
Ire-Escape Balconies and
Ladders.

Jafform Elevators,
Blevators,
Blevators,
Blates
Water Tanks.

Flatform Elevators,
Blevators,
Bronts for Buildings.
Columns of every kind.
Arch Greders, with tonsic
Columns of every kind.
Arch Greders, wit Window Sashes and Frames. Fire-Proof Ceilings and Partitions. Lathing. Sky-Lights. Floor-Lights Book-Safe Doors. Fire-Escape Balconies and Ladders.

Rolled and Riveted Beams and Girders.

Casi Ma Beans.
Cornices.
Capitals and Bases.
Flue Rings. Ventilators.
Blunalizating Tiles, for general commens.
Steps and Platforms.
Roof Crestings & Flinials.
Verandahs. Balconies.
Shutter Eyes. TurnStalle
Stall

CAST IRON. Leader Pipes. Gus. 5
Coal Covers. Walking
Plates.
Reilings and Gates, for
dwellings, offices and
cemeteries.
Improved Chairs, for theatres, with turn-up seats.
Stable Fixtures, Mangers,
Stall Guards, &c.

Shovels, Riddles, Brushes, &c.

WHITEHEAD BROS.

WM. WHITEHEAD, Treas.. 517 W. 15th St.

New York.

MANUFACTURERS'

G BORR IVE

AMER

GRAPI

PLUMI

Rails.

General O

JAMES (

An

Ri

Aron.

PHILADELPHIA.

Siemens' Regenerative

RICHMOND & POTTS, 119 8, Fourth St., PHILADELPHIA, PA. Fron.

PHILADELPHIA.

HENRY LEVIS & CO., Manufacturers' Agents

For Iron and Steel Rails, Car Wheels, Boiler and Sheet Iron and General Railway Equipments.
Old Rails, Axles, and Wheels bought and sold.

261 S. 4th St., Philadelphia.

The Cambria Iron and Steel Works

RAILS.

have now an annual capacity of

100,000 Tons of Iron and Steel Rails, Splice Bars, &c. ADDRESS.

CAMBRIA IRON COMPANY,

No. 218 South 4th Street, Philadelphia.

Or at the Works, JOHNSTOWN, PA. Or LENOX SMITH, New York Selling Agent, 46 Pine St., N. Y.

PHŒNIX IRON 410 Walnut Street, PHILADELPHIA.

CURVED, STRAIGHT AND HIPPED

Wrought Iron Roof Trusses, Beams, Girders & Joists, DECK BEAMS, CHANNEL, ANGLE AND T BARS

PATENT WROUGHT IRON COLUMNS, WELDLESS EYE BARS.

Railroad Iron, Street Rails, Rail Joints and Wrought Iron Chairs. REFINED BAR, SHAFTING, and every variety of SHAPE IRON made to Order DAVID REEVES, President.

ALAN WOOD & CO.,

MANUFACTURERS OF

Patent Planished, Galvanized, Common, Best Refined, Cleaned and Charconi Bloom

PLATE & SHEET IRON. No. 519 Arch St., Philadelphia, Pa.

Orders solicited especially for Corrugated, Gasholder, Pan and Elbow, Water Pipe, Smoke Stack, Last, Stamping, Ferrule, Locomotive Headlight and Jacket Iron.



Kensington Iron, Steel & Nail Works,

920 North Delaware Ave., - - PHILADELPHIA,

Anvil Brand Refined Merchant Bar Iron.

Also, the James Rowland & Co. Kensington Nails, cut from their Refined Anvil stock. Also, Plow and Cultivator Steel, Re iquares, Flats, Bands and Hoop Iron. Correspondence with Dealers solicited.

PENCOYD IRON WORKS.

CAR AXLES.

BAR, ANGLE, TEE AND CHANNEL IRON.





FOUNDRY SUPPLIES MANUFACTURERS



GERMAN LEAD, AMERICAN LEAD, GRAPHITE

or

BREWEINERN. ANTHRACITE, CHARCOAL, MINERAL,

SIEVES, SHOVELS, BRUSHES, CRUCIBLES,

MACHINERY SAND. CHANDELIER STOVE PLATE

Z

5

S

AND

J. W. PAXSON & CO. | 814, 516 and 518 Beach St., Philadeiphia, Pa

ALLENTOWN ROLLING MILL COMPANY,

Rails, Bars, Axles, Shafting, Fish Bars (Plain and Angle), Spikes, Rivets, Bolts and Nuts, &c. Bridges and Turn Tables. Works at Allentown Pa General Office, 303 Walnut St., Philadelphia.

THOMAS H. GARRETT.

ANDREW A. BLAIR.

BOOTH, CARRETT & BLAIR, Analytical and Consulting Chemists,

919 and 921 Chant St. (10th St. above Chestnut St.), PHILADELPHIA, PA. Established in 1836.

Analyses of Ores, Waters, Metals and Alloys of all kinds. A special department for the

ANALYSIS OF IRON AND STEEL,

fitted with all the apparatus and appliances for the rapid and accurate analysis of Iron, Steel, Iron Ores, Slags, Limestones, Coals, Clays, Fire Sands, &c. All analyses made by the members of the firm. Price lists on application.

Aron.

Edward J. Etting.

IRON BROKER AND COMMISSION MERCHANT 230 S. Third St., Philadelphia, Pa. Pig, Bar and Railroad Iron. Agent for the

Allentown Iron Co. and the Coleraine Furnaces.

STORAGE WHARF & YARD,
DELAWARE AVENUE ABOVE CALLOWHILL STREET,
nnected by track with railroad.

BESSEMER ORES.

Blue Ore, Red (Foundry) Ore, and a limited mount of the celebrated Brotherton (Foundry) Ore. Prices will be given on application to

J. WESLEY PULLMAN

407 Walnut St., Philadelphia.

T. HORACE BROWN

D. W. R. READ & CO.,

General Commission Merchants. ORES, METALS, &c.

Spanish, Algerian and Domestic Ores of Iron, Manganese, &c.

205% Walnut St., PHILADELPHIA

J. W. HOFFMAN & CO.,

Iron Merchants & Railway Equipments. 208 South Fourth St., Philadelphia.

Sole agents flasgow fron Co. and Pine Iron Work manufacturers of Muck Bar and all grades of Plat Iron. Celebrated "Glauge" and "Pines brands for fire boxes and difficult flanging. Pig an Bar Iron, Bails and all shapes in Iron. Quotation given on Bridge and Building Specifications.



LOCOMOTIVE AND CAR WHEEL TIRES, BRAND

STANDARD.

Works at Lowistown, Pa. Office, 220 S. 4th St., Philadelphia, Pa.

Fron.

RAILROAD IRON T Rails.

16, 18, 20, 22, 25, 28, 30, 35, 40, 45, 50, 56, 60 lbs. pe

STREET RAILS OF ALL PATTERNS, 26, 28, 30, 36, 40, 43, 45, 47, 50, 60 lbs. per yard, in ock or made to order.

Special sections made if required.

Book of sections furnished on application **EDWARD SAMUEL & CO.,** 339 Walnut St., Philadelphia.

J. O. RICHARDSON Chester Iron Company's IRON COMMISSION MERCHANT,

Pig Iron, Railroad Iron and Iron Ores.

Sole Agent for the MONOCACY FURNACE CO. DEALER IN

MOSELEM, ROCKHILL, WARWICK, And other Favorite Brands SILVER GREY IRON A SPECIALTY.

LANGHORNE WISTER.

L. & R. WISTER. Brokers and Commission Mer chants in Iron, Steel, &c.

The Iron-Masters'

Analysis of Ores of Iron, Pig and Manutac tured Iron, Steels, Limestone, Clays, Slags and Coal for Practical Metallurgical Purposes

No. 339 Walnut St., Philadelphia. J. BLODGET BRITTON.

This laboratory was established in 1866, at the in stance of a number of practical Iron Masters, expressly to afford prompt and reliable information upon the chemical composition of the substances above mentioned, for smelting and refining purposes. The object being to make it at once a convenient, practically useful, and comparatively inexpensive adjunct to the Furnace, Forge and Rolling Mill.

CHARGES TO IRON WORKS.

For determining the per cent. of Pure Iron in an ordinary Ore.

For the per cent. of Pure Iron, Sulphur and Phosphorus in do.

For each additional constituent of usual oc-

currence.
or those of unusual occurrence or difficult
to determine, the charge must necessarily
depend upon circumstances.
for determining the per cent, of Sulphur or
Phosphorus in Iron or Steel.
or each additional constituent of usual oc-

currence.
For the per cent. of Carbonate of Lime, and insoluble Silicious Matter in a Limestone. 10,00 or each additional constituent or the per cent. of Water, Volatile Combustible Matter, fixed Carbon, and Ash in Coal.

For determining the constituents of a Clay, Slag. 'oke, or of an Ash in Coal the charges will corresond with those for the constituents of an ore. For a written opinion or letter of instruction the harge must necessarily depend upon circumtances.

Printed instructions for obtaining proper average samples for analysis furnished upon application.

J. F. BAILEY & CO.,

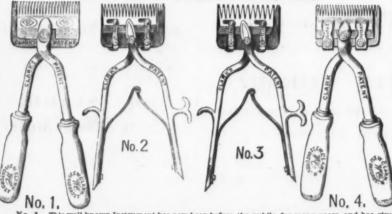
216 South 4th St., Philadelphia. 52 Wall St., (Room 8) New York. Selling Agents

ATKINS BRO'S-BEAMS, CHANNELS, RAILS, &c. A. & P. Roberts & Co.—Car Axles, Plates, Channels, Tee, Angle and Bar Iron.

Philadelphia Agents Central Iron Works, Harrisburg, Pa.—Boiler, Ship and Bridge Plates. WILLIAM McILVAIN & SONS-Boiler, Ship and Bridge Plates. BERWICK R. M. BARS AND SHAPE IRON.
Advances on Consignments of Old Material and sales promptly made.

CLARK'S PATENT HORSE CLIPPERS

Prize Medal Awarded, Paris, 1878.



the public for many years, and has given far the best, and therefore the cheapest in 1, 2, -ONE-HANDED CLIPPER, for heads, b hold the horse, thus enabling the Clipping ith coarser teeth, for legs and bellies, and opening of getting under the animal, and the



MACHINE BRASS

All Styles Nuts, Washers, Ferrules and Brass Goods Generally. PLUMBERS' AND GAS FITTERS' SUPPLIES A SPECIALTY. The privilege of estimating on special articles solicited

Industrial Arbitration.

The arguments in favor of arbitration as a means of preventing wages and other disputes between masters and men in mechanical trades depending upon skilled labor, are too well known to require repetition here. It is not our purpose to discuss the merits of the system at this time, but merely to give a scheme for the constitution of a board of arbitration as adopted for the regulation of the extensive manufacturing business of Straiton & Storm, cigar makers.

The board consists of one cigar maker. three rollers, one packer, three foremen and one member of the firm. The report of the committee appointed to consider and report a scheme is as follows: Reviewing the past four years one cannot

help but notice the injurious effects produced by strikes, both to the employer and em-ployee, and particularly as to the latter class; and, taking it into consideration that these strikes invariably ended in failure, rethese strikes invariably ended in failure, resulting in a gradual reduction instead of an advance in wages, and that by reason of these strikes an abundant quantity of unemployed labor of all other kinds has been drawn into our branch of industry, thus considerably increasing the productive force from year to year, one should naturally come to the conclusion that plain common sense would digitate to every one having at sense would dictate to every one having at heart his own interest and welfare that the proper time has come for the devisement of practical measures to protect the interest of both parties concerned, thus effectually

and permanently closing the chasm now existing between employer and employee.

In order to secure this object and insure its permanent existence, it is absolutely necessary that inconsiderate and flerce passions, heretofore resorted to, must give wise council, and above all, peaceful de liberations.

We therefore now propose to leave hereafter all matters of difference as to wages, or of any other kind and nature whatsoever.

or of any other kind and nature whatsoever, to a court of arbitration.

We are convinced that by the adoption of measures suitable to the wants of the times the cigar makers, as a class, will be vastly benefited, and their condition surely ad-

vanced in the community.

We now beg to offer for your consider ation our opinion as to the necessary and proper manner of construction of such court of arbitration.

ARTICLE I.

Cigar Makers' Board of Arbitration.

Sec. 1. There shall be a board of arbitration composed of four cigar makers, one packer (to be elected as hereinafter provided) and three foremen, appointed by the firm, and one member of the firm.

Sec. 2. These together shall constitute the

Cigar Makers' Board of Arbitration, to whom shall be submitted all questions of wages, and such other things as may be in dispute between employer and employees.

Sec. 3. They shall hear such evidence as

may be necessary to a proper understanding of the questions before them, and then pro-ceed to call the roll and vote openly, and the action of the majority shall be binding on all parties concerned.

ARTICE II

Packers' Board of Arbitration

Sec. 1. There shall be a board of arbitra-tion composed of two packers, one cigar maker (to be elected as hereinafter provided), the packer foreman, and one me of the firm.

of the firm.

Sec. 2. These together shall constitute the Packers' Board of Arbitration, to whom shall be submitted all questions of wages, and such other matters as may be in dispute between employer and employees.

Sec. 3. They shall hear such evidence as may be necessary to a proper understanding of the questions before them, and then proceed to decide by an open vote, and the accept to decide by an open vote, and the

ceed to decide by an open vote, and the ac-tion of the majority shall be binding on all parties concerned.

ARTICLE III.

Electing Cigar Makers' Delegates on Arbitration

Sec. I. There shall be elected, at regular annual meetings, by ballot, from each of the three departments, five delegates.
Sec. 2.—One week after such election the delegates so elected shall assemble and or-

ganize, and elect five of their number to the Board of Arbitration, four of whom shall sit with the Cigar Makers' Board of Arbitra-tion; the remaining ten delegates, or those that are still in the employ of Messrs. Straishall proceed to fill vacancy in the same manner as they elected

the first five.

Sec. 4.—But should the number of delegates at any time be less than three, the cigar makers shall proceed, by ballot, to fill the whole number for the unexpired term—this number not to exceed ten.

ARTICLE IV.

Packers Delegates on Arbitration. Sec. 1 .- There shall be elected at the regular annual meetings, by ballot, seven

Sec. 2.-One week after such election they shall assemble and organize, and elect three of their number to the Boad Arbitration, two of whom shall sit with the Packers' Board of Arbitration and one with that of the Cigar Makers, as heretofore provided, and hold

office for one year.

Sec. 3.—Should any vacancies occur during that period in the Board of Arbitration, the remaining four delegates, or those still in the employ of Messrs. Straiton & Storm, shall proceed by ballot to fill such vacancy in the same manner as they have elected the first three.

Sec. 4.—Should the number of delegates at any time be less than two, the packers shall proceed by ballot to fill the whole number for the unexpired term. this number not to exceed four.

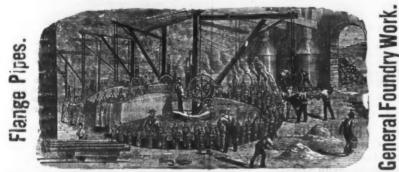
ARTICLE V

Sec. I.—One week after the election of the Board of Arbitration, both the Cigar Makers and the Packers' Board of Arbitration, constituted as above, shall meet separately and organize.

Sec. 2.—The cigar makers shall elect one from the Packers' Board of Arbitration, who thereafter shall act with them in the Cigar Makers' Board, who thereafter shall act with

MCNEALS & ARCHER,

BURLINGTON, N. J.



PIPES FOR WATER AND GAS.

ESTABLISHED IN 1848.

CO., SINGER, NIMICK

PITTSBURGH, PA. MANUFACTURERS OF ALL KINDS OF

HAMMERED AND ROLLED

Warranted Equal to any Produced.

BEST REFINED TOOL CAST STEEL

For Edge and Turning Tools, Taps. Dies, Drills, Punches, Shear-Knives, Cold-Chisels and Machinists' Tools generally.

SAW PLATES

For Circular, Mulay, Mill, Gang, Drag, Pit and Cross-Cut Saws.

Sheet Steel

For Springs, Billet Web and Hand Saws, Shovels, Cotton Gin Saws, Stamping Cold, &c., &c.

SIEMENS-MARTIN (Open-Hearth) PLATE STEEL

For Boilers, Pire-Boxes, Smoke Stacks, Tanks, &c. All our Plate and Sheet Steel being rolled by a Patented Improvement is unequaled for surface anish and exactness of gauge.

ROUND MACHINERY CAST STEEL For Shafting, Spindles, Rollers, &c., &c.

File, Fork, Hoe, Rake, R. R. Frog, Toe-Calk, Sleigh-Shoe and Tire Steel, &c., Cast and German Spring and Plow Steel.

"Iron Center" Cast Plow Steel,
"Soft Steel Center" Cast Plow Steel,
"Solid Soft Center" Cast Plow Steel,
Steel Forgings made to order.

"Finished Rolling Plow Coulters with Patent Screw
Hubs attached.
Agricultural Steel cut to any pattern desired.

Represented at 59 BEEKMAN ST., NEW YORK, by HOGAN & BURROWS, Gen'l Agents for Eastern and New England States.

MIDVALE STEEL WORKS,

CRUCIBLE AND OPEN HEARTH STEEL.

TIRES AND AXLES

OF EVERY DESCRIPTION.



TOOL, MACHINERY AND SPRING STEEL CASTINGS AND FORGINGS.

WORES AND OFFICE Nicetown, Philadelphia, Pa.

WAREHOUSE: 12 N. 5th St., Philadelphia, Pri.

ESTABLISHED 1847. A. WHITNEY & SONS, PHILADELPHIA,

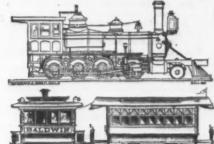
CHILLED RAILROAD WHEELS

For every kind of service, including Street, Mine and Lumber Tramways. Wheels furnished in rough

PENNSYLVANIA STEEL COMPANY

Steel Rails, Frogs, Crossings & Switches, Forgings for Piston Rods, Guide Bars, Wrist Pins and Machinery Purposes.

Works at Baldwin Station, Pennsylvania Railroad, near Harrisburg, Pa. Address all orders to PENNSYLVANIA STEEL COMPANY, 208 South Fourth Street, Philadelphia.



bored or on axles. Chilled eastings made to order.

BALDWIN LOCOMOTIVE WORKS

BURNHAM, PARRY, WILLIAMS & CO., Proprietors, Philadelphia, Pa., U. S. A., Manufacturers of

LOCOMOTIVE ENGINES

of every Description. Catalogues, photographs and estimation of customers

NOISELESS STEAM MOTORS, For city and suburban Railways.

These machines are nearly noiseless in oper-tion; show no smoke with the use of anthracit coal or coke as fuel, and show no steam whateve under ordinary conditions of service. They oa be run at two or three times the speed of hor-articulars supplied.

HROME

WAREHOUSE.

Address JOHN W. QUINCY, Manager, 98 William St., N. Y.

This Steel is made from Chromium and Iron, and is remarkable for Strength, Burability and Uniformity. Send for Circular, where the proof will show it does 25 to 75 per cent, more than other cast steel. It is adapted to all kinds of work where cast steel is used. Chrome Steel Castings from 25 to 590 lbs. to order.

Southern Advertisements.

IRON COMPANY, GIRARD WRENCH. ROANE

Manufacturers of and Dealers in

Pig and Railroad Iron.

CHATTANOOGA, -TENN. T. J. BROWN,

Rockwood, Tenn.

Miner and Contractor of Fossiliferous Ores.

A superior article delivered at low figures at any furnace within the district or at any point on the Ohio River. Refer to Roane Iron Co., Chattanooga.

Dealer in Charcoal and Coke Pig Iron for Foundry, Forge or Car Wheel purposes.

Chattanooga, Tenn.

S. B. LOWE.

Pig Iron, Storage & Commission.

MADE A SPECIALTY BY

TAYLOR & BOGGIS,

65 to 73 Central Way,

CLEVELAND, OHIO.

Having extensive machine shop connected with foundry, we are enabled to fit up all kinds of light Hardware or patented articles. Correspondence solicited.

IRON AND STEEL DROP FORCINGS

All shapes, small and large, including
Gun, Pistol, Wrench Bars, &c. Also, Die Sinking. Manufacturers also of
Bricklayers', Moulders' and Plasterers' Tools, Saddlers' Round and Head Knives.

WILLIAM ROSE & BROS., 36th & Filbert Sts., West Philadelphia.

RICHARD P. PIM, Wilmington, Delaware,

REFINED AIR FURNACE MALLEABLE IRON. IMPROVED PROCESS, LIGHT GRAY IRON CASTINGS

Castings of Best Quality made to order at short notice. BRITTON IRON AND STEEL CO.,

ER, TANK AND BRIDGE PLATES,

Galvanized and Black Sheet Iron. CLEVELAND, OHIO. Foot of Wasson Street,



M. KING & CO., WATERFORD, N. Y.,

Manufacturers of the BUTTONS PATENT

CUTTER AND PLIER COMBINED." Specially Adapted for Use on Wire Fence.

Also Manufacturers of Biacksmith and Machinists' Stocks and Dies, Piug and Taper Taps,
Hand, Nut and Screw Taps, Pipe Taps and Reamers.
Price List on application.

Established by Daniel B. King, 1899.



CHALFANT MFG. CO.,

Office and Wareroom

435 Arch St., Philadelphia.

Having purchased the celebrated

Patent Gas Heating Toilet Smoothing Iron,

pretefore made by the Oroutt Manufacturing impany, of New York, we are now prepared to pply the trade with these celebrated Irons of the finish and quality, and at the lowes ice. They can be heated in three minutes of yordinary gas burner. These irons are adapter gentlemen to iron their silk hats, and foldies-traveling in this or foreign countries; alies redessmaking, as well as for general use. Our countries all have a polished wooden handle, and redire no holder, and are all nickel plated and ghly finished. A liberal dissount to the trade. Send for a descriptive circular.

send for a descriptive circular. We also manufacture the Troy Polishing Iron for laundry purposes.

JEWETT'S PATENT

COMBINATION

FIRE-SET

Patented December 10, 1872.

THE JEWETT PATENT COAL VASE is deservedly the most popular in market, as was proven by the large increase of sales last season.

Our Extra Hard Japan is unequaled. It has a finish equal to the finest English Coach Varnish, and hard as

The Vase is very ornamental, being richly decorated in artistic styles, Japanese, &c.
Catalogue sent dealers only upon application.

SOLE MANUFACTURERS,

JOHN C. JEWETT & SONS

BUFFALO, N. Y.

STANDARD

WARRANTED,



GUARANIEED IN EVERY RESPECT.

Wrought Bar, Head and Screw.

Owing to the increased demand for these justly

Popular Wrenches, we are now manu facturing more than any other establishment in the world.

Our Wrench having been imitated by other manufactur ers, we have adopted the above Trade Mark, and will hereafter stamp all our

SEND FOR TERMS and PRICES.

GIRARD WRENCH MFG. CO., Girard, Pa. PITTSBURGH FOUNDRY.

A. GARRISON & CO.,

Manufacturers of

Chilled Sand and Patent Homogeneous Steel

Both Solid and Hollow,

Ore and Clay Pulverizers, Rotary Squ Haskin's Patent Double Spiral Pinions, and Rolling Mill Castings of every description.

OFFICE, 6 Wood St., - - PITTSBURGH. Bridgewater Iron Co., Bridgewater, Mass., Manufacturers of SEAMLESS DRAWN COPPER AND BRASS TUBES, TACK PLATES, Forgings of every description. Bridgewater Iron Co.'s

HORSE NAILS. PRICE LIST Nos.... 5 6 7 8 9 10 Per lb.. 20¢ 23¢ 21¢ 20¢ 10¢ 18¢ Liberal discounts to the Trade.
73 Pearl Street, New York.
28 Broad Street. Boston.

Coal.

J. G. FELL, Phila. A. PARDEE, Hazelton, Pa.

303 Walnut St.,

PHILADELPHIA.

No. III Broadway, New York. MINERS AND SHIPPERS OF

Lehigh Coals. The following superior and well-known Lehigh

Coals are mined by ourselves and firms connected with us, viz. HAZLETON, CRANBERRY, SUGAR LOAF.

A. Pardee & Co.

Pardee, Bro. & Co LATTIMER. Calvin Pardee & Co. HOLLYWOOD. Pardee, Sons & Co. Mt. PLEASANT.

THE HOBOKEN COAL CO., SCRANTON, LEHIGH and other COALS. Retail Yard on D. L. & W. Railroad, cor. Grove and thats., Jersey City. Coal delivered direct from shutes carts and wagons. Families and manufactories sup the best qualities of Coal at the lower 1: At yard our. Grove and 19th sts.; of ewark av., Jersey City; Room 3, 111 . General Office, Bank Ruilding, cor. 1 con sts., Hobolen. 2. O. Box 247, Hob

MINERS' CANDLES.

Superior to any other Light for Mining Purposes. Manufactured by

JAMES BOYD'S SON, Nos. 10 & 12 Franklin St., New York.

IR

Gal

Portable Fire Annihilator. Fig. 279.



"Little Detective. A \$10 SCALE FOR \$3.

Perfect as any Letter Scale. THOUSANDS SOLD BY DEALERS



Weighs from % oz. to 25 lbs. Weighs from % oz. to 25 lbs.

This little Scale is made with Steel Bearings and a Brass Beam, and will weigh accurately any package from % oz. to 25 lbs. It is intended to supply the great demand for a Housekeeper's Scale. Nothing of the kind ever having been sold before for less than from \$8 to \$12. Every Scale is perfect and will last a person's lifetime.

Every family in City, Village or Country will have one. It is also a valuable Scale in every office, for weighing mail matter, as well as a convenient Scale for any store. It is warranted as perfect as any Letter Balance.

Same Scale with Tin Scoop and Balance Weight, 50 cents extra: Brass Scoop, 75 cents extra. Two-ton Wagon Scales, \$40; Four-ton, \$60.

All other kinds at a great reduction.
Special prices to dealers, who find ours the bestelling Scales in the market. Address,

CHICAGO SCALE CO., Chicago, III.

THE AVALANCHE ROTARY, FLOUR AND MEAL



Scoop, Measure, Mixer, Weigher, Egg Beater, Rice Washer: Tomato, Storch, Wine and Fruit Stratner. Guaranteed the very best, and the chespest to the jobbing trade. It commends itself where-ever shown.

N. DUBRUL & CO. 1441 & 443 Plum St. Lantern and Sleve Manuffre. CINCINNATI, O. SMITH BROS. & CO., Agents, 73 Fulton st., N. Y THE

Gilbert & Bennett Mfg. Co., CORN GEORGETOWN, CONN.,

IRON WIRE, SIEVES AND WIRE CLOTH,

Power Loom Painted Screen Wire Cloth, GILBERT'S RIVAL ASH SIEVE,

Galvanized Twist Wire Netting, THE UNION METALLIC CLOTHES LINE WIRE, Warehouse, - 273 Pearl St., New York.



ER.

OD.

NT.

and utes sup-ates. Bay road-wark en.

ing

rk.

John Maxheimer, Manufacturer of Patented Japanned, Tinned Wire,

s best and chests a right-hander

.9 .9 .9

It It

Class Brass Bird Cages. Wires on both class fastened without solder. The cheapest and most leable in market.

947 & 949 Pearl St., New York.



Rear of 407 Cherry St., Philadelphia, Pa. Send for Price List.

TACKLE BLOCKS. Rope and Iron Strap of all kinds. Ligmvitæ Wood for Ten-Pin Balls.

Wm, H. McMillan & Bro., Office, 113 South Street, New York Factory, 39 to 40 Penn St., Brooklyn, E. 1). W. & B. DOUGLAS,

Middletown, Conn., The Oldest and Most Extensive Manufacturers of

PUMPS, HYDRAULIC RAMS;

GARDEN ENGINES. Yard Hydrants, Street Washers, WIND-MILL PUMPS AND OTHER

Hydraulic Machines IN THE WORLD.

Awarded the GRAND MEDAL at WORLD'S EXPOSITION, Paris, France, 1878, being the highest award on Pumps, &c.; also the highest medals at Paris, 1867, Vienna, 1873, and Philadelphia 1876, accompanied by the Report of Judges.

Descriptive Catalogues and Price Lists sent when requested.

BRANCH WAREHOUSES, 85 and 87 John St., N. Y., 197 Lake St., CHICAGO, III.



UNION MANUFACTURING COMPANY



Fine Castings a Specialty. NEW BRITAIN, CONN. Warchouses,
Chambers St., New York,
Kilby St., Boston (Pumps),
aton & Deuckla, 507 Comserce St., Phila, (Butts.)



BURRALL'S PATENT

SHELLER AND

Right-Handed.



It It

We manufacture the only genuine Burrall Corn Sheller, having been making them for the past 15 years. It is therefore of very great importance that you should purchase shellers with our name on to avoid trouble in getting repairs. We can pack from six to eight in a hogshead. For prices or other information, address

THE GOULDS MANUFACTURING CO.,

FACTORY: WAREHOUSE: 15 Park Place, New York City Seneca Falls, N. Y. H. W. AUSTIN & CO., Agents, Chicago, III, ; BIGNALL & OSTRANDER, Agents, St. Louis, Mo.

CUT TACKS, SHOE NAILS, WIRE NAILS,

Pat. Brads, Finishing Nails, Clout Nails, Trunk Nails, Hungarian Nails, Cigar-Box Nails, Basket Nails, 2d and 3d Fine Nails. Carpet Tacks, Upholsterers' Tacks, Gimp and Lace Tacks,
Brush Tacks, Copper and Brass Tacks,
BRASS AND IRON ESCUTCHEON PINS, &c., &c.,
MANUFACTURED BY

DUNBAR, HOBART & WHIDDEN, So. Abington Station, Mass.

New York Salesroom, 39 Warren St. Goods made to order from sample.

Particular attention given to orders for EXPORT.

them in the Packers' Board of Arbitration, moved and controlled by the large hand and vacancies shall be filled in the same wheels shown at the end. The dies are used

representatives shall constitute a part, as above mentioned.

taken, except in presence of every member

BY-LAWS.

ARTICLE I.

Sec. 1. The secretary shall notify (if requested by a majority of the men interested) each member of the board of the time and place of meeting within three days of such meeting taking place. Sec. 2. The meeting shall be called to or-

Sec. 3. Six members of the board shall constitute a quorum for the transaction of all business, except the taking of the final

ARTICLE II.

Sec. 1. Where a meeting of the board has been called for the purpose of adjusting any difference between employers and employees, when such subject has been brought properly before the board, meetings shall be held daily until the matter before them has been disposed of.

Sec. 2. At the meeting at which a final vote is to be taken, all delegates shall be present, so that in case any member of the board is absent his place can be filled imme-

ARTICLE III.

Sec. 1. One of every 25 employees shall have the privilege to appear before the board to represent their case.

Sec. 2. Such representatives may present their views either in writing or otherwise.

Sec. 3. If verbal, they shall confine their remarks to the subject, and not occupy more than 1s minutes. than 15 minutes.

than 15 minutes.

Sec. 4. In no case shall these representatives enter into any discussion other than a plain statement of their case, and answer such questions as the members of the board

may ask.

Sec. 5. Such representatives shall not be members of the board or delegates.

ARTICLE IV.

When the final vote is taken the names shall be called in alphabetical order, and the votes to be given in "ayes" or "nays."

A Cornice Machine in Litigation.

We have at different times taken occasion to point out the crudeness of the machinery in general use among the cornice makers, and in an endeavor to stimulate inventors we have called attention to almost unoccuwe have called attention to almost unoccupied, we might say unexplored, fields which lay before them in this direction. The number of patents which have been issued by the government upon cornice machines is very small, comparison being made with the number issued in other branches of metal work, and the devices covered are for the most part suggestions of what may be done rather than examples of perfected machines. So few have been the patents granted, and so

manner.

Sec. 3.—At such meetings the firm and its epresentatives shall constitute a part, as bove mentioned.

Sec. 4.—All this being complied with, the coard will be ready for such business as may come before it. Sec. 5.—At no time shall a vote affecting the interests of employers or employees be upon full length meldings the machine taken, except in presence of any properties. upon full length moldings three operators are required, two of them to hold and adjust the sheet of iron, and the third to revolve the wheel which moves the head of the machine. The operation is, therefore, somewhat slow, and in point of labor quite expensive, yet the machine is so powerful and the shape imported to the metal so uniform throughout, that in a measure these objections are overcome.

Under date of Feb. 4, 1868, a patent was

meeting taking place.

Sec. 2. The meeting shall be called to order within 15 minutes after the appointed fime.

granted to Mr. Valentine Fischer, of this city, of the well-known firm of George fime.

Fischer & Bro., which by its specifications

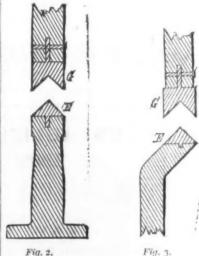
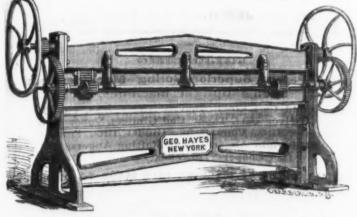


Fig. 2.

and claims covers the essential features of the machine represented in the accompany-ing engraving. The upper head, however, in the Fischer machine is worked by a series in the rischer machine is worked by a series of toggle levers, their points being in a horizontal rod, by the movement of which they are spread or contracted, lowering or raising the upper dio. This rod is moved in or out by means of a pinion working upon a thread. The framework of the machine is of wood, The dies are fastened to the bed-plate and to the movable head by suitable keys. The Fischer machine is con'7. A machine for sheet-metal moldings,
when the same are made, and operating substantially as herein shown and de-

SECTIONS OF DIE.



scribed."

Fig. 1 .- MACHINE USED BY MR. HAYES AND OTHER DEFENDANTS.

far apart have been the efforts of the small number of inventors engaged in this field, that it is seldom any clash of interests has occurred which has been of sufficient importance to be carried into the courts. To learn of a cornice machine patent which has been in litigation for nearly or quite ten years, is therefore something out of the usual course of events. Such a thing, however, exists, and associated with it are some facts, a narration of which as we have been able to obtain them by interviewing the parties in interest, is likely to prove entertaining to many readers of The Metal Worker.

The suits in question are brought by Valfar apart have been the efforts of the small the male die will be manifest upon a mo-

machine, and therefore we are obliged to make our description of it by means of a cut representing the machine in use by the defendants. We think, however, we shall been manufactured in England for many

many readers of The Metal Worker.

The suits in question are brought by Valentine Fischer, the patentee, against various skylight and cornice manufacturers who are using machines said to be infringements upon a patent granted to him in 1868.

No engraving has been made of Mr. Fischer's is old—much older than the patent in question, and that, therefore, this device is of

defendants. We think, however, we shall be able to make all essential points clear by this means.

Mr. George Hayes is the principal defendant in the suits at present. Fig. I of the accompanying engravings represents the complete machine built by him, and used by him and others. Figs. 2 and 3 represent sections of the dies employed in the machine for making right-angled bends.

A general description of the working of this pachine will enable us better to describe the essential features of the patented device. In so doing, however, we shall probably lay ourselves open to the charge of presenting the defendants case first. However, we have no desire to do otherwise than state facts as narrated to us, and therefore we trust this informality will be overlooked.

The cross-head of the machine carrying the upper die has a vertical motion, being

the upper die has a vertical motion, being represented in the engraving was gotten up

AUBURN FILE WORKS. Superior Hand-Cut FILES AND RASPS,

MADE FROM IMPORTED STEEL. **FULLER BROS., Sole Agents,**

89 Chambers and 71 Reade Streets, N. Y



McCAFFREY & BRO.,

PENNSYLVANIA FILE WORKS,

Philadelphia, Pa., U. S.



Manufacture and keep in stock a full line of FILES and HASPS only dadvantages over the ordinary goods, and ask domestic and foreign buyer or their trade. Superiority acknowledged wherever used, sold or exhibited.

I ESTABLISHED 1848.





MANUFACTURERS OF

Augers, Auger Bits, BORING MACHINES & BORING IMPLEMENTS.

TENNIS & WILSON,

Sole Agents,

NEW YORK. 80 & 82 Reade St., FIRST MEDAL AND AWARD

given to the SNELL MFG. CO. for the highest standard of perfection attainable



SNELL'S JENNINGS PATTERN BIT.

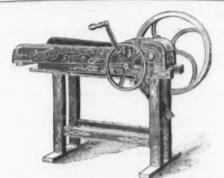
Manufactured from Extra Cast Steel and warranted.

SOLE MANUFACTURERS OF

Rice's Patent Superior Boring Machines and Snell's Upright Machines.

Suell's Solid Cast Steel Augers, Auger Bits, Car Bits, Screw Driver Bits, Taper Pod Gimlets, Taper Pod Gimlet Bits, Countersink Gimlet Bits, Long Millwright Augers, Long Rafting Augers, Coopers' Doweling Bits,

AND ALL KINDS OF MACHINE BITS MADE TO ORDER.



SILVER & DEMING MFC. CO., SALEM, OHIO, MANUFACTURERS O

DEMING

Send for prices and discounts.

RIPLEY MANUFACTURING CO., Unionville, Conn., U. S. A.



BEST PORCELAIN-LINED LEMON SQUEEZERS. "Common Sense" Mouse Traps.

HAND-MADE ROSEWOOD FAUCETS. Housefurnishing Hardware.

FOR HOME AND EXPORT TRADE.

FILES &

RASPS. HAND-CUT. Manufactured by

JOHNSON & BRO.

No. 1 Commercial Street, Newark, N. J. SPENCER & UNDERHILL

94 Chambers St., N. Y., Agents for American Screw Co.'s Wood, Machine and Rail Screws, Stove and Tire Bolts, Rivets, &c. Rail Screws, Stove and Thre Boits, Rivets, &c.

O. Ames & Sons, Shovels, Spades and Scoops.

A. Field & Son, Tacks, Brads, Nails, &c.

G. F. Warner & Co., Carriage Clamps.

We have also on hand a general assortment of Hardware



THE CIANT PAD LOCK.

THE SMITH & EGGE MFG. CO.

(Centennial Award.)
Superior in Every Respect. leited. Address as above Lock Box 105, Bridgeport, Conn. New Britain, Connecticut.

PRIZE MEDALLISTS:

Exhibitions of 1862, 1865, 1867, 1872, 1873, and only award and medal for Noiseless Steel Shutters at Philadelphia, 1876, and Paris, 1878.

CLARK & CO...

Original Inventors and Sole Patentees of

Noiseless Self-Coiling Revolving STEEL SHUTTERS,

> FIRE AND BURGLAR PROOF. ALSO IMPROVED

Rolling Wood Shutters

ing Architects of the World. Send for Catalogue

Office and Manufactory, 162 & 164 West 27th St., N. Y



GEO. C. TRACY & CO.,

Solicitors of Patents and Counsellors at Patent Law.

Euclid Avenue Block, Cleveland, Ohio,

519 Seventh Street, Washington, D. C.



We invite corre spondence. One hun-dred page book, containing the Paten Laws of various coun the Patent tries, blank forms and much valuable informuch valuable in mation mailed free.

HOWSONS'

UNITED STATES AND FOREIGN PATENTS.

Forrest Buildings, 19 SOUTH FOURTH ST., PHILADELPHIA AND MARBLE BUILDINGS 805 Seventh St. (Opposite U. S. Patent Office) Washington, D. C.

H. HOWSON Solictor of Patents. C. HOWSON Attorney at Law. Communications should be addressed to the PRINCIPAL OFFICES, PHILADELPHIA.

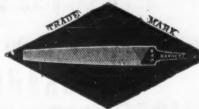
PATENTS.

PATENT MINERAL WOOL,

S. &c. A. D. ELBERS, 26½ Broadway, New York. Address P. O. Box 4461,

Black Diamond File Works.







Awarded by Jurors of Centennial Exposition, 1876, for "VERY SUPERIOR GOODS."

G. & H. BARNETT

39, 41 & 43 Richmond St., Philadelphia.

CHARLES B. PAUL,

Manufacturer of HAND CUT FILES.

187 Tenth Street, Williamsburgh, New York.

THE STANLEY WORKS.

Wrought Iron Butts, Hinges

DOOR BOLTS.

Plain, Japanned, Bronzed and Plated.

FACTORIES:

WAREHOUSE

79 Chambers St., New York.

SABIN MFG. CO.,

MONTPELIER, VT., Manufacturers of

PATENT DOUBLE ACTING SPRING BUTTS

Sabin's Lever Door Springs

For Heavy Doors.

The BOSS and CROWN SPRINGS for Screen and Light Inside Doors.

HENRY BROOKS & CO., 127 Milk Street, Boston. General Agents. E. P. WHIPPLE, 100 Chambers Street, New York. KELLOGG, JOHNSON & BLISS, 108 Randolph Street, Chicago.

GRAHAM & HAINES, 1040. 113 Chambers and 95 Reade Streets, New York.

P. O. Box 1040.

Cotton, Wool and Curry Cards hompson, Derby & Co., Scythe Snaths. tacyo Fork Mills. steel Fork, Rakes, Hoes, &c. . Knickerbucker,

cythes, Axes and Tools.

W. Kipp, Nail Hammer toman, Park & Co., Vi Rioman, Park & Co., Picks, Mattocks, Grub Hoes, &c. Jacobus & Nimick Mfg. Co., Locks, &c. Sandusky Tool Co.,

Teo M. Eddy & Co.

HARDWARE

Ce Curry Comb Co., ombs.

Bros. & Co., whose Imperation of the Control of States on Derby & Co., staths.

Fork Mills.

Far, Rakes, Hoes, &c.

Kirp, Nail Hammers.

Kirp



THE ADAMS AND WESTLAKE

Wood-Lined and Plain Zinc

Will not warp or lose their shape. Easily

kept clean. For sale by Hardware and Stove Dealers.

THE ADAMS & WESTLAKE MFG. CO., CHICAGO. Sole Manufacturers of Mann's Tin-Rim Sleves.

THE AMERICAN MACHINE CO., Manufacturers of

AM

Catal tion. PH

821 C

No. 1916 to 1924 North 4th St., Philadelphia.

SPECIALTIES: Fluting Machines, Hand Fluters. Plaiting Machines, Christmas Tree Holders, ord Portable Pump, Mrs. Potts' Patent Cold-Handle "Crown" Irons, &c., &c.



LAKE SUPERIOR PAINT CO... Manufacturers of

Extra Fine Iron Ore Paint,

CLEVELAND, OHIO.

P. O. address, Box 69. Trade Mark Patented.

Wire Nails, Moulding Nails, Escutcheon Pins, &c.

New York Salesroom, 116 Chambers Street. AMERICAN TACK CO., Fairhaven, Mass.

A. FIELD & SONS,

TAUNTON, MASS.,

MANUFACTURERS OF

AMERICAN AND FRENCH

WIRE NAILS

TACKS, SHOE NAILS,

And Every Variety of Small Nails.

Offices & Factories at Taunton, Mass.

Warehouse at 78 Chambers St., New York,

where may be found a full assortment of Tacks, Brads, Wire Nails, &c., for the accommodation of the New York Wholesale and Jobbing Trade. 🚁 Any variations from the regular size or shape of the above-named goods made from sample to order. Æ

A SILVER MEDAL has been awarded above goods at the Paris Exposition, being the only medal awarded any American manufacturer of Tacks and Wire Nalls.

Machinery

VE BROTHERS MFG. CO.,

STAR LOCK WORKS.

PETABLISHED 1836.

Door Springs, Trunk Stays, Keys, &c., &c. Dead Latches, 110 South 8th St., and Sansom, bet. 8th





REDUCTION IN PRICE LIST FOR THE FALL TRADE. AMERICAN MINCING KNIFE,



Catalogue of Hardware Novelties upon applica PHILADELPHIA NOVELTY MFG. CO., 891 Cherry Street, Philadelphia, Pa

CLOTHES WRINGERS.



T. J. ALEXANDER, Manager

THE ANSONIA CORRUGATED STOVE PLATFORM. With Patented O. G. Border.

ROUND ZINC.



Cut Showing Round Platform.

27, 30, 32, 31, 36 inch.

Manufactured of heavy metal, requiring no nailing or lining, the edge retaining its form. Superior pattern, finish and quality, Price as low as any.

Send for List and Discount. Packed 12 in each case.

THE ANSONIA STOVE REST.



This Cut is the Actual Size of 2-inch.

STOVE RESTS are designed to place under the feet of Stoves and Ranges, for the purpose of raising them from the floor or platform. They are about %-inch thick, covered with sheet metal in zinc, brass and nickel plate. Highly polished and finished. Packed one set of 4 pieces in each paper box, and 36 sets in n each paper box, and 36

2, 21, 21, 31 inch. Send for full Description

ANSONIA BRASS AND COPPER CO., 19 Cliff St., New York.

NEW YORK BELTING & PACKING COMP'Y The Oldest and Largest Manufacturers in the United States

Vulcanized Rubber Fabrics FOR MECHANICAL PURPOSES.

WAREHOUSE, 37 and 38 Park Row, New York.

ORIGINAL Solid Vulcanite

The properties of these Wheels are such that they can be used with great advantage and onomy for cutting, grinding, and finishing Wrought and Cast Iron, Chilled Iron, Hardened Steel, Slate, Marble, Glass, etc. These Wheels are extensively used by manufacturers of Hardware, Cutlery, Edge Tools, Plows, Safes, Stoves, Fire Arms, Wagon Springs, Axles, Skates, Agri-

PATENT ELASTIC

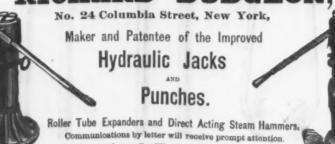
Rubber Back Square Packing For Packing the Piston Rods & Valve Stems of Steam Engines & Pumps.

ade in lengths of about 20 feet, and of all sizes from % to 2 inches square NEW YORK BELTING & PACKING CO., JOHN H. CHEEVER, 37 and 38 Park Rose, New York

VERONA TOOL WORKS. METCALF, PAUL & CO.,

Pittsburgh, Pa. BRANCHES. St. Louis, 720 North Second Street. Chicago, 40 Dearborn Street.

RICHARD DUDGEON,



Jacks for pressing on Car Wheels or Crank Pins made to order.

by Mr. Hayes, as we understand that gentleman's statement, in 1870, to suit the requirements of his business and without any regard to invention, he recognizing all that he employed as old principles.

From the patterns made by Mr. Hayes at

whom we have mentioned above as having imported a machine of similar construction from England in 1867, and this suit in turn was transferred by sale of the machine to Messrs. Ackerman and Borkel. It was allowed to drag its slow course through the courts until some time in last April, when a decision was reached, Judge Blatchford being upon the bench. We called attention to this decision in our issue of May 24. Suit was commenced by Mr. Fischer under the patent against Mr. Hayes in 1870, but no decision in the case has been reached up to the present time. Upon obtaining the decision of Judge Blatchford, in the suit of Fischer vs. Wilson, Mr. Hayes and others were enjoined by Fischer against using their machines, and suit was instituted. At this juncture Mr. John Nicholson, a prominent cornice manufacturer of this city, lowed to drag its slow course through the prominent cornice manufacturer of this city, and who owns an imported machine, and Mr. and who owns an imported machine, and Mr. Borkel, the final successor of Wilson, took out licenses under the Fischer patent and left Mr. Hayes virtually to fight the case alone. Upon being served with the injunction Mr. Hayes stopped the use of his machine for a period sufficient to make such changes in the dies as in his estimation avoided conflict with the patent, but which, being avoid to court were still decided to avoided connect with the patent, but which, being exhibited in court, were still decided to be infringements. In this connection the judge called special attention to the wording of the claim, wherein is set forth the object to be obtained, keeping the dies clean. Whereupon Mr. Hayes made another change in his dies. He cut grooves in the male die (shown by E in Fig. 2) in such a manner that the scale necessarily accumulated upon that die, so that it required frequent cleaning during the process of using it. This, Mr. Hayes claims, by virtue of the judge's own suggestion, avoids all infringement of the fourth claim in the patent. Some of the other par-ties using machines of this character, among whom may be mentioned John Neil, late Morrison & Neil, have changed their ma-chines in such a way as to place the male above the female die.

At present, as we understand it, argument is being made before a referee in this case, whether Mr. Hayes should not be decase, whether Mr. Hayes should not be de-elared in contempt of court for persisting in the use of dies arranged with the projecting die below and the hollow die above. Mr. Hayes claims, and with show of reason we admit, that if the patent laws of the United States are such that the Fischer patent of itself is a valid one—that if the fact of such itself is a valid one—that if the fact of such machines being in use in other countries, although not there patented and although not published in books or periodicals, does not render the Fischer patent inoperative—it still goes too far in this fourth claim relating to the arrangement of the dies. Mr. Hayes claims that this device is old, almost as old as the art of working metals; that it is used as the art of working metals; that it is used in various connections, from the blacksmith's swedge up to certain machines made for corrugating sheet metal. Certain experts assert that it is a device which they have corrugating sheet metal. Certain experts assert that it is a device which they have used in the construction of machines long before the Fischer patent was granted, and which they did not attempt to patent in connection with other features because it was known to be old at that time. Upon the strength of this generally received opinion, backed by the assertions of mechanics and experts, although, he admits, at present without much of that which would be called competent evidence in court, Mr. Hayes pro-ceeds in his fight of resisting the patent. In last week's *Metal Worker* Mr. Hayes

published a card in the advertising columns, calling attention to these features and the fact of the litigation in which he was engaged, requesting any who could contribute nformation upon this subject to cate with him. As may be judged from the number of persons interested in the use of dies of similar character, and the importance which seems to attach to this machine both as used in the manufacture of skylights and also in the manufacture of cornices, no insignificant result is involved in this fight. If Mr. Hayes succeeds it will annul the scher patent, at least to the extent of undoing all that is secured to him by the fourth

owner of the "Wilson" machine, gives him reason to believe that the present contest can end in only one way, and that Mr. Hayes must necessarily be beaten. He claims, with reference to the imported machines, that they were changed after being brought to this country—that as constructed

In connection with the licenses granted under the Fischer patent, we by accident learned of some special conditions stipulated therein. One of these documents sets forth "that in consideration of \$1, and the fur-ther performance of certain covenants herethis time, machines were constructed for his branch establishments at Chicago, Boston and San Francisco. His business is the chine for the term of — years." Then authorized and empowered to use said machine for the term of —— years." Then follow the conditions and stipulations.
"First, that the said A B shall always hereand San Francisco. His business is the manufacture of skylights, and the machine, as constructed by him, was calculated particularly for use upon that line of work. It was discovered, however, by some of his neighbors, after he got to using the machine, that it possessed features desirable for use in cornice work, and, accordingly, a number of the machines were built from Mr. Haye' pattern for cornice makers. There are at present a total of about 16 or 17 machines of the Hayes pattern in use.

Very soon after the issue of this patent Mr. Fischer commenced suit against Wilson, whom we have mentioned above as having and give our readers an account of the result whenever a final decision is reached.

> Report of the United States Testing Board on the Properties of Wrought Iron and of Chain Cables.

(Continued from Iron Age, Sept. 18 and 25, 1879.) PROOF STRAINS FOR CHAIN CABLES.

A finished cable has yet a final ordeal to undergo before it is issued for service, which may prove disastrous to its value, even if it has escaped every danger that has accompanied its manufacture. It is to be "proved," which means that each of the 15 fathom "sections" of which it is composed is to be subjected to a tensional strain sufficient to make it probable that the presence of any very defective links will be made manifest, that they may be removed and replaced by others. As tension in excess will probably injure the cable, it is impor tant to fix upon a strain for each size, which while sufficient to insure the detection of unduly weak links, will not produce them. unduly weak links, will not produce them.

Most American manufacturers of cable use
for each size a stress which is prescribed by
the standard proof table of the British Admiralty. Our experiments lead us to doubt
the wisdom of applying this English standard to American iron. We consider that, as
applied to cables made from American bar
iron this standard is faulty in two importiron, this standard is faulty in two important respects. 1. The stress prescribed by it for every size of cable is too great. 2. The stresses for the different sizes are unequal in their proportion to the strength of the links. We assign the following reasons for these

I. The stress for all sizes is based upor the assumption that the cable iron of all diameters possesses a strength equal to 60,000 pounds per square inch. Few bars of Amerameters possesses a strength equal to 60,000 pounds per square inch. Few bars of American iron possess this strength, and when they do their cost precludes their use as cable iron; and, as has been shown in the investigations by tension, although this strength may be found in the small bars, it is not found in the large sizes of the same iron.

2. If the bars of all sizes did possess this strength, the "proof" is still too great, for it probably exceeds by a considerable amount the elastic limit of the links.

The table as furnished to the committee by two prominent manufacturers, viz., Messrs. J. B. Carr & Co., of Troy, and Mr. H. L. Fearing, of Boston, is herewith given. Columns 1 and 2 are as furnished to us; No. 3 contains the stresses calculated by a formula which is embodied as a rule as follows:

For proof of each size, square the number of eighths of an inch in the diameter of the bar and multiply the result by 630:

ĸ.	BIEC.		366 LTk		SHE HAR	Stre	68 111
	Inch.	Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
	1		40,320	18	40,320	18	40,320
	1 1.10.		44,800	20	44,800	20.32	45.517
)	x3/6		51,520	23	51,520	22.78	51.030
	x 3-16	36	56,200	25	55,960	25.38	56,857
П	x34		62,720	3.9	64,960	98.12	63.000
	1 5-16	30	67,200	31	69,440	31.01	69,457
;	134	34	76,160	34	76,100	34.03	70,230
l	1 7-16	37	82,880	37	82,880	37.22	83.317
	x36	48	91,800	48	91,800	40.50	90,720
1	1 9-16	44	98,500	43	9/1,320	43-94	98,473
	15%		107,530	415	107,520	47-53	100,470
ı	x xx-16.		116,480	58	114,240	51.25	114,817
	x3/4	56	125,440	56	125,440	55.18	133,480
1	1 13-16.	60	134,400	59	132,1fo	59.05	132,275
١	23/6	64	143,360	64	143,360	63.38	141,750
1	E 15-16.	68	152,320	68	152,320	67.57	151,357
П	2	73	161,880	72	161,280	73.	161,280
	2 1-16			76	171,360	76.59	171,517
- 1	21/6		179.200	81.3	181,130	8x.28	183,070
1	2 3-16					86.13	192,937
1	254	88	197,120	01.1	204,064	91.11	304,130

The practical and actual results which we have found to occur through the use of this table, and which have doubtless occurred with many cables proved by it, but which have not been found, are that the stress is so great that it always exceeds the elastic limit of the links, and frequently cracks them. As an example of such results, six sections, each five fathoms in length, were An interview with Mr. Fischer adds but little to the facts above set forth. Mr. Fischer claims to have obtained the patent in question in good faith, and to have been working upon his invention several years prior to perfecting it and applying for the patent. The fact of having maintained a verdict against Mr. Borkel, the present owner of the "Wilson" machine, gives him reason to believe that the present contest Admiralty standard is a fruitful source of weakened cables, we were also aware that in recommending that it should be no longer used, we should, if the advice were followed, deprive manufacturers of good cables of a safeguard against competition by those who might, unchecked, use inferior iron. We have therefore considered is eschines, that they were not adapted to cornice work and the like, and that a change embodying the features covered by the second and fourth claims of his patent was necessary to make them at all useful.

We have no opinion to express in this which would, in our judgment, prescribe strains which would fully prove cables and not be liable to injure them. We submit such a table, which is based upon the two reliables that a proof strain should return the strain should return the submit such a table, which is based upon the two reliables that a proof strain should return the strain should return the submit such a table, which is based upon the two reliables that a proof strain should return the submit such as the not be liable to injure them. We submit matter concerning the legal rights of the contestauts. Patent law is something which occasionally seems to overstep the bounds of common sense and common justice, and the present case may be one illustrating that eccentricity. A large amount of money is being expended by the contestants, and its seems to us, from practical experience in metal working, upon a device the usefulness of which is not commensurate with the cost.

To be liable to injure them. We submit such a table, which is based upon the two principles that a proof strain should retained a the common sense and common justice, and the present case may be one illustrating that eccentricity. A large amount of money is being expended by the contestants, and its seems to us, from practical experience in metal working, upon a device the usefulness of which is not commensurate with the cost.

From the liable to injure them. We submit such a table, which is based upon the two currents of the strength of a cable is equal only to that of its weakest link. Assuming as a tandard of perfection the characteristics of a bar which when made into a link should develop twice the original strength of the bar, we considered that the iron which approached most closely and uniformly this standard was the most suitable for chain cables.

From the contestants are the contestants and its should develop twice the original strength of the bar, we considered that the iron which approached most closely and uniformly this standard was the most suitable for chain cables. most closely and uniformly this standard was the most suitable for chain cables. From tables of the results of our tests we

RUSSELL & ERWIN MANUFACTURING COMPANY,

Manufacturers of HARDWARE.

FACTORIES

NEW BRITAIN, CONNECTICUT, U. S. A.

MANUFACTURERS' AGENTS AND DEALERS IN GENERAL HARDWARE AT OUR

WAREHOUSES: NEW YORK, 45 & 47 Chambers Street; PHILADELPHIA, 425 Market Street; BALTIMORE, 17 South Charles Street.

Polished Steel Fire Irons.

Fire Iron Stands.

Iron and Brass Head Shovels,

Tongs and Pokers.

Coal Tongs.



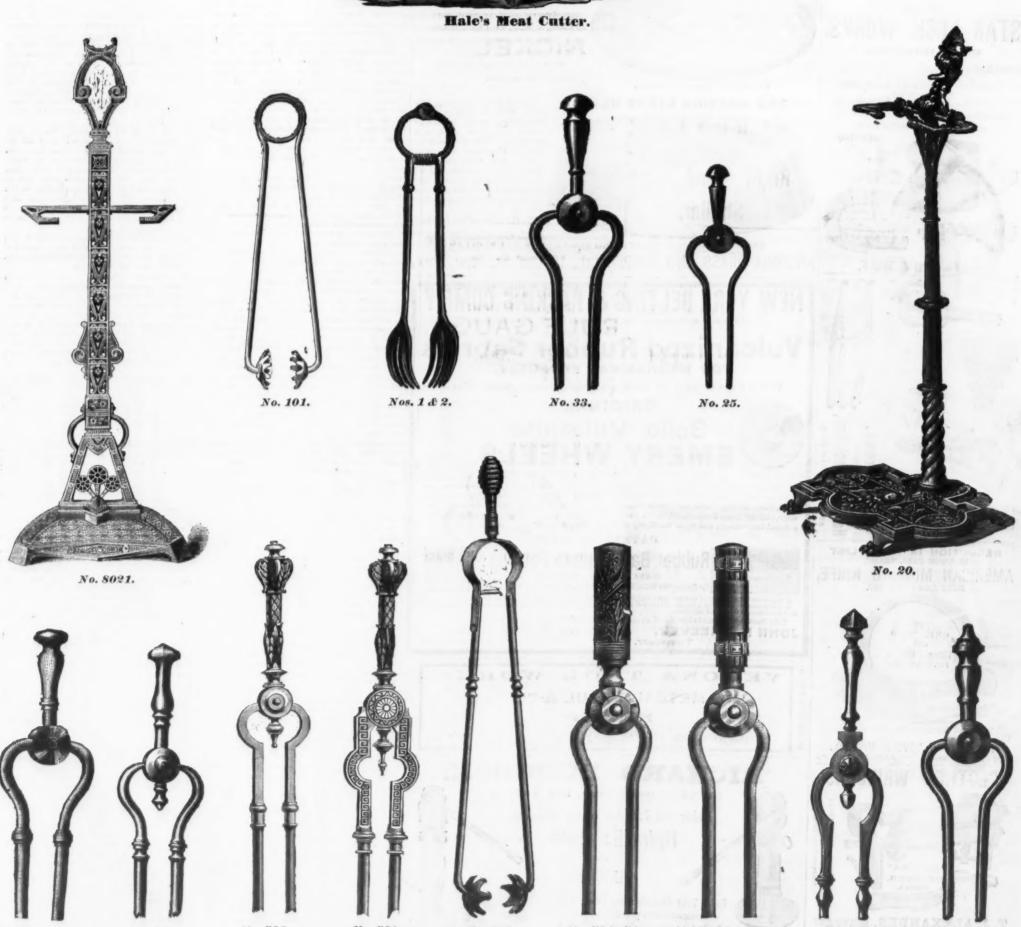
Hale's Meat Cutters.

Butcher's Meat Cutters.

Waterman's Cast Iron Bake

Pans,

&c., &c.



COLEMAN EAGLE BOLT WORKS

WELSH & LEA. NORWAY IRON CARRIAGE & TIRE BOLTS.

AXLE CLIPS, &c.

Highest and only Awards and Medals, Philadelphia, 1876, and Paris, 1878.

WORKS, Columbia Avenue, Hancock and Mascher Streets.

OFFICE, 145 Columbia Avenue (late 2030 Arch St.)

PHILADELPHIA, U.S.A.

HEATON & DENCKLA, Hardware Commission Merchants,

507 Commerce Street, Philadelphia.

Spikes, &c.

MALLORY, WHEELER & CO.'S Door and Pad

Rivets, Spoons, &c.

GAYLORD MANUFACTURING CO.'S Till, Chest and Curboard Locks,
and Curboard Locks.

Locks, UNION MANUFACTURING CO.'S Butts. AMERICAN SCREW CO.'S Screws.
D. R. BARTON TOOL CO.'S Edge Tools, &c. FRANCE'S Shutter Holders.

Anti-Window Rattlers, Brass and Nickel-Plated. WESTERN FILE CO.'S Cast Steel Files. AMERICAN SHEAR CO.'S Shears and Scissors. H. M. MYERS & CO.'S Shovels, Spades and

E. & G. BROOKE'S "Anchor Brand" Nails, Brads, | BROWN & BROS.' Brass and Copper Wire,

AMES' Genuine A Chester Emery. COLWELL & COLLINS, NORWAY BOLT CO. Norway Carriage and Tire Bolts. PLYMOUTH MILL CO.'S Black and Tinned Iron

AMERICAN MACHINE CO.'S Fluters, &c. STUART, PETERSON & CO.'S Tinned and Enam eled Ware, &c. HUSSEY, HOWE & CO.'S Bar & Sheet Cast Steel.

BURRALL'S

IMPROVED

Right Hand Corn

Sheller. **Enlarged Hopper with**

Wood Legs.

Will Shell the Largest as well as Small Corn.

Is acknowledged by all who have used to be the **Biest Hand Corn Shel-**or made. These facts are attested by er 70,000 farmers who have bought and ed them.

Rumsey & Co.

Seneca Falls, N. Y

93 Liberty Street,

NEW YORK.

Also a large line of Heavy and Shelf Hardware.

ESTERBROOK'S

THE MOST POPULAR PENS IN USE. For Sale by all Stationers.

ESTERBROOK STEEL PEN CO..

WESTON DYNAMO-ELECTRIC MACHINE

The rapid increase in the use of Nickel-Plating owing to the introduction of the Weston Machin and the very low price of nickel material, enable us to give greatly reduced estimates for complet

nuts.
We are furnishing outfits specially adapted for ove Work, giving a pure white deposit on plain mat surfaces.

Stove Work, giving a pure white deposit on plain or mat surfaces.

Outflits complete, with Dynamo-Electric Machine Tanks, Anodes, Solution, &c., &c., &s., &s., o.

We beg to refer to the following Stove Manufacturers among 500 other houses using the Weston Machine: Richardson & Boynton, S. S. Jewett & Co., Fuller, Warren & Co., Ferry & Co., Detroit Stove Works, Michigan Stove Co., Co-operative Stove Co., E. & C. Gurney, Hamilton & Toronto, and many others.

We call attention to infringements of the Weston Machine, in which Automatic Switches are used to pre-ent change of current. The Weston Co. are owners by grant or purchase of all forms of Automatic Switches for Flating Machines. The adoption of these machines will cortainly lead to great 1688 to parties purchasing or using them.

CONDIT HANSON & VAN WINKLE Sole Agents NEWARK, N.J. U.S.A.

ENGLISH AGENCY: 18 Caroline Street, Birmingha

One of the Best Selling Inventions in

Dubois' Patent

ready come into use all over the conow prepared to supply the trade at

Send for descriptive circular and price list to M. N. DUBOIS, Manufacturer,
1 Cherry Street, PHILADELPHIA



Spofford's Patent Bit Brace Manufactured by

FRAY & PIGG.

Bridgeport, Connecticut, All Iron, Four Sizes. Rosewood Head and Handle No. 7... 7-inch sweep. No. 107... 7-inch sweep No. 108... 8 "No. 108... 8 "No. 108... 8 "No. 109... 109 "No. 109... 109 "No. 119... 119 "No. 119... 12 "No. 119... 12 "



John Carver, MANUFACTURER OF

CAULKING IRONS. Cotton, Freight and Hay Hooks, No. 44 North Third Street, BROOKLYN, R. D. factors. Near First.

have been enabled to arrive at conclusions as to the probable strength of cables made from irons varying in characteristics. We have the comparative records of 210 sections of cables broken by tension, which were made of 15 different irons. Examining the abstracts by our standard, we find that 36 sections developed over 170 per cent. of the bar's strength, 22 of them exceeded 175 per cent., nine exceeded 180 per cent., and only one exceeded 130 per cent., and only one exceeded 135 per cent. On the other hand, 67 sections developed less than 155 per cent., leaving 107, or over 50 per cent. of the series, which developed between 155 and 170 per cent., and of these the average deryo per cent., and of these the average development was 163 per cent. The 210 sections of various irons can be reduced to 143 sections of iron which may be considered more or less suitable for cable, by eliminating the records of the 67 sections which broke at less than 155 per cent. of the bar's strength, and at once deciding that they have no claim to be considered as having have no claim to be considered as naving have no claim to be considered as naving been made from suitable chain iron. We a safer proof strain than one which approximates to the elastic limit of the link, and the link whose elastic limit we should adopt the link whose elastic limit we should adopt is the weakest one which will, after proof, are can't in the cable. We have found by a safe in the cable.

the average or produces it by very irregular factors, we consider unsuitable.

It remains to decide upon the strength of bar which will most probably produce links that will develop the largest and most uniform percentage. Our records again supply the required data. We find the irons A, B, O and F, which were low in tensile strength, sustained the process of manufacture into links with less loss of strength than did other irons which exceeded them in this respect, and with all the series, excess of tensile strength was accompanied by deficiency in strength was accompanied by deficiency in strength and uniformity as cables. We have decided upon adopting a low tensile strength as a probable indication of high welding value, and, as shown by the relative power of resisting sudden strains, of great resilience.

In selecting the low tensile strength, we did not decide arbitrarily in favor of the pre-

did not decide arbitrarily in favor of the pre-cedence which should be given to the per-centage of bar's strength developed by the links. We find that, in many cases, the ac-tual strength of the links made from the bars of low tensile strength equals and exceeds that of others from much stronger bars. For example, iron K, 2-inch bar, tensile strength example, from K, 2-inch bar, tensile strength per square inch, 58,900 lbs.; strength of links, 258,900 lbs. Iron A, tensile strength, 2-inch bar, 50,171 lbs.; strength of links, 265,000 lbs. Iron D, tensile strength, 2-inch bar, 51,152 lbs.; strength of links, 276,500. Iron F, tensile strength, 2-inch bar, 48,956 lbs.; strength of links, 263,750 lbs. We consider that our experiment justify us in consider that our experiments justify us in recommending as a suitable strength for a 2-inch bar of chain iron, a mean between the margins found to exist in those bars whose record both in bar and link form has just been given; and as the links of iron D, with tensile strength 51,152 pounds, and of iron F, with 48,956 lbs., were equally good and strong, we adopt their mean of 50,000 lbs. We find that iron A, which possesses nearly the medium strength as a bar (50,171

lbs.) produces cable which is remarkably

rong and uniform.
Considering, then, that an iron is suitable which as a 2-inch bar has a strength of 50,000 lbs. per square inch, and that other irons whose variation from this strength does not exceed 5 per cent. are equally suitable, we have, in determining the strength for the other sizes, to avail ourselves of the information procured in the investigation of the action of the rolls; which is, in brief, that the proportional strength of bars of the same material increases as the diameter de-creases, and that the aggregate of the in-

PROBABLE STRENGTH OF ROUND BARS, CALCULATED WITH AN ALLOWANCE FOR VARIATION IN STRENGTH DUE TO DIAMETER.

Strength of Bar. of increase, Lbs. 245 253 202 Bar, Lbs.

Accepting this rate of increase of strength as one which approximates to the actual in-crease of tenacity of iron bars of decreasing diameter, we have used it in the calculation of our proof table. Having thus fixed upon a suitable strength for each sized bar, we deduce the probable strength of cables made from them by the aid of the percentages of the bar's strength, which we have found will probably be developed by the links, as indicated by those found in such irons as we have examined. In this table of strength of links it is considered that no iron should be expected to possess in link form over 170 per cent. of the bar's strength, and that no suitable chain iron should possess less than per cent. of the bar's strength, and that no suitable chain iron should possess less than 155 per cent. of the same, and that the aver-age strength of a number of tested sections should not be less than 163 per cent., such average to be made from fairly uniform

PROBABLE STRENGTH OF CABLES MADE FROM WITH STRENGTH CORRESPONDING TO THAT IN TABLE.

Size of bar. Inches.	Strength of entire bar. Pounds.	Maxim'm 170 per cent of bar-Pounds	Average 163 per ct. of bar Pounds.	Minimum 155 per ct. of bar Pounds.
2	157,080	267,036	256,040	243,474
1 15-16	148,137	251,833	241,463	229,612
176	139,430	237,031	227.278	216, 116
1 13-16	130,966	222,642	283.475	202,997
13/4	122,745	208,666	900,074	190,255
1 11-10	114.770	195,139	187,075	177,894
x56	807,040	181,968	174.475	165,912
1 9-16	99,560	169,250	162,283	354,318
11/2	92,322	156,947	150,485	143,090
1 7-16	85,339	145,076	139,103	132,275
13/8	78,607	133,632	128,129	121,841
1 5 16	72,133	122,626	\$17,577	111,800
134	65,914	117,054	107,440	102,167
1 3-10	59,958	101,929	97.731	92,935
1/8	54,268	92,244	88,445	84,105
I I-16	48,800	82,960	79-544	75,640
E	43,665	74,230	71,172	67,681

have therefore adopted.

strength and welding qualities combined, strength and welding qualities combined, is the weakest one which will, after proof, is the weakest one which will, after proof, remain in the cable. We have found by a great number of tests of bars in their normal condition that the elastic limit of good cable is about 57 per cent. of its ultimate a maximum, 163 per cent. for an average, and 155 per cent. for a minimum. Iron which in the link form develops the average by results which do not vary greatly, we consider suitable; that which falls below consider suitable is that which falls below the the material in bar form begins to

Size. In.	Proving strain. Pounds.	Size. Proving strain.
	121,737	x 7-x6
		13/8 60,920
x36		1 5-1655,903
1 13-16.		11/451,084
	95,128	x 3-1646,468
I II-16, .	88,947	13%42,053
156	82,956	1 1-16
1 9-16.	77,150	133,840
v 1/4	27.550	33. 1

The important points of difference between the recommended proof table and the one in

I. In the former, the proof stress is for every size uniform in its proportion to the probable strength of the links; in the latter,

it varies with every change of size.

2. Unless the elastic limit of the link is a greater proportion of its ultimate strength than that of the bar was to its strength, the strains of the table in use greatly exceed this limit upon all sizes, while those of the former denot. former do not.

former do not.

3. The recommended proof table recognizes the probability of these being introduced into cable links made from bars which, though of equally good iron as the rest, are, through faults in rolling, more or less scant, and in consequence possess less strength than bars rolled true, which deficiency will be carried into the links. Should there by accident be a few links of 1 15-16-inch in a 2-inch cable, the Admiralty proof inch in a 2-inch cable, the Admiralty proof would strain the strongest of such links to over 62 per cent., and the weakest to over 70 per cent. of the actual strength.

For these reasons we recommend that this table, based upon actual strength of American iron, be used in place of that of the

FORM AND PROPORTIONS OF TEST PIECES.

Our tests frequently gave results of tensile strength and elastic limit which were so much lower than the manufacturers of the various irons considered their products equal creases for the 16 sizes (measuring by 16ths of an inch between 2 inches and 1 inch) is from 4000 to 6000 lbs., produced by steps which are made more or less irregular by irregularities in heating the piles. Using the which are made more or less irregular by irregularities in heating the piles. Using the mean of the aggregate of increase of our best and most uniform irons, we find that the strength per square inch of a bar of I inch diameter is about 5560 olbs greater than that of the 2 inch, and that if the strength of the 2-inch bar is 50,000 lbs. per square inch, it is probable that of the 1-inch bar will be 55,600 lbs.

It was necessary to connect these strengths by a series of successively increasing factors, the sum of which should equal 5600 lbs. We, therefore, calculated a ratio which produced a constantly increasing coefficient to be applied as the diameter, with results as follows:

does not appear that even as yet the errors which thus arrise are fully recognized. As a case in point, iron F, the average tensile strength of all sizes of which, as furnished to us in a tabulated statement by the manufacturers, was 63,207 pounds, was found by from 46,446 to 52,396 pounds, according to the size. We determined thoroughly to investigate the effect upon the results which were due to variations in the proportions of the test-pieces, and a number of comparative tests were made with results as follows:

COMPARISON OF RESULTS OBTAINED FROM GROOVI TEST PIECES AND FROM SHORT, TURNED CYLI DERS.

pe	9 9	-			by	
Size. Inches	Area of section broken. Sq'a inch.	Length between heads, inches.	Cylinders. Lbs.	Grooves. Lbs.	Pounds.	Per cent,
1 1-16 . 1 1/6	One-quarter	1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20	57.700 56,600 52,600 48,000 58,000 52,400 51,200 58,400 55,450 54,300 58,400 58,500 58,000 44,000	71,530 70,600 65,850 59,000 67,400 62,800 67,200 54,500 65,400 60,000 60,000 64,900 62,400 58,500	13,830 14,000 13,190 11,000 8,500 10,400 13,000 8,800 7,600 9,950 11,700 11,300 13,40 81,500	23.5 84.5 24 25 14.6 20 24 15 16 18 21 19 26 22

These results made it evident that the

THE WENTER TO THE TENTE OF THE PERSON OF THE
CHATILLONS MARKET BOOK AND
9 2
SCALES.
JOHN CHATHLON & SONS, NEW YORK, U.S.A.

H. D. SMITH & CO.,

Plantsville, Conn.,

Manufacturers of the

BEST QUALITY CARRIAGE MAKERS' HARDWARE,

Manufacture the Largest Variety of Forged Carriage Irons of Best Material and Workmanship.

PRICES LOW FOR QUALITY OF WORK FURNISHED.

SEND FOR PRICE LIST.

RANAC HORSE Polished or Blued Horse Nails, Hammered

The Saranac Nails are hammered hot and the finishing and pointing are done cold. Quality is fully guaranteed. For sale by all leading iron and hard-

J. W. LYNDE, Secretary. S. P. BOWEN, President and Treasurer.

PLATTSBURG, N. Y.

STERLING & CO., Agents, 7 and 9 Cliff Street, New York.

DIBBLE MANUFACTURING CO.,

TRENTON, N. J.



HEMACITE DOOR KNOBS, SCREW KNOBS

And House

PRICE LISTS ON APPLICATION.

These Knobs being light, do not wear the locks. They are at the same time exceedingly strong and handsome. We guarantee them to stand as long as the doors in any interior situation.

HALL'S PATENT DOUBLE COMPOUND LEVER CUTTING NIPPERS. NEAT, HANDY, POWERFUL AND DURABLE.



Manufactured by THE INTERCHANGEABLE TOOL COMPANY, of New York.

PETER A. FRASSE & CO. Sole Agents, 95 Fulton Street, New York.

CHAMPION HOC RINCER RINGS and HOLDER.





RINGER and RINGS.

CHAMBERS, BERING & QUINLAN, Exclusive Manufacturers, Decatur, Ill.



Hanger, With Wood Track. It does away with the iron

rail, and cannot be thrown off the track, having a flat-faced wheel one inch wide. It runs as easily with less noise and can be put up in less time than any other Hanger made. Track made solid or of two pieces. For sale by the wholesale trade generally, and the

KIDDER SLIDE DOOR HANGER CO., Sole Manufacturers.

0

R. COOK & SONS. Manufacturers of

Carriage & Wagon AXLES. WINSTED, CONN.

RETABLISHED 1819.

All kinds Wagon & Carriage Axles

Manufactured by the LAMBERTVILLE IRON WORKS, AMBERTVILLE IRON Bend for prior ANCHOR BRAND

AXLES

For all Styles Carriages and Wagons. Annual production 180,000 sets.



NEL

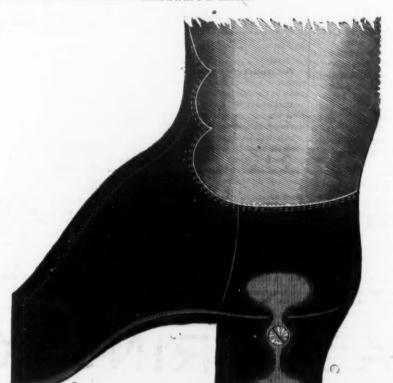
Boots and Shoes can be kept Straight AND OLD ONES STRAIGHTENED BY USING LYON'S PATENT METALLIC HEEL STIFFENER These can be applied to any Boot or Shoe at any time by any one. Every Pair is Warranted to bend to fit the Boot without Breaking. All Boxes must be marked, Manufactured only by NELSON LYON, Albany, N. Y., under Fatents of July 9, 1872, May 18, 1875. In the second of the second of the second of the wire for the second may be marked, Manufactured only by NELSON LYON, Albany, N. Y., under Fatents of July 9, 1872, May 18, 1875. CATALOGUES SEINT FREIE. Sovermment had not received iron of such great tensile strength as was supposed, and this was supposed, and this was supposed, and this was supposed, and this was neaded by the two methods. It was noticed that the difference of results on the leasticity of wires, consisting of Sinch two methods. It was noticed that the difference of results on the leasticity of wires, consisting of Sinch leaveral of the irons which make up our records. It was noticed that the difference of results on the leasticity of wires, consisting of Sinch leaveral of the information and this was made upone creating the results are given in the clasticity of wires, consisting of Sinch leaveral of the information and this was made upone creating the results are given in the clasticity of wires, consisting of Sinch leaveral of the make upon the clasticity of wires, consisting of Sinch leaveral of the make upon the clasticity of wires, consisting of Sinch leaveral of the make upon the clasticity of wires, consisting of Sinch leaveral of the series was noticed that the difference of results on the clasticity of the clasticity of wires, consisting of Sinch leaveral of the median the surface of the British Association on the clasticity of the clasticity NEW

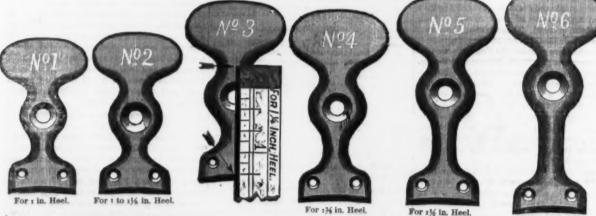
LYON'S PATENT METALLIC HEEL STIFFENER

July 11, 1876.

CATALOGUES SENT FREE.

For Sale by all Wholesale and Retail Hardware Dealers.



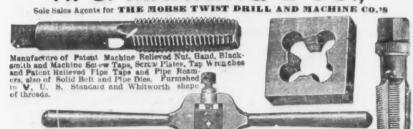


NELSON LYON, Sole Manufacturer, Albany, N. Y.



H. S. MANNING & CO.,

S



111 Liberty Street.

NEW YORK.



N. Y. MALLET and HANDLE WORKS

Manufacturers of Calkers', Carpenters', Stone Cutters' Tin, Copper and Boiler Makers' MALLETS.

Hawsing Beetles, Hawsing and Calking Irons: lso all kinds of Handles, Sledge, Chisel and Ham-ner Handles, Also COTTON AND BALE HOOKS, ated Feb. 13, 1877; a new combination of H 456 E. Houston St., New York City.

government had not received iron of such

more iron. The results are given in the following table:

EXPERIMENTS ON PROPER FORM OF TEST PIECE.

Number,											Original length.— Inches.	Stress when piece began to stretch. Lbs. per sq. in.	Breaking stress.— Lbs. per sq. in.	Per cent, of elon-gation,										
3			,			,	. ,		. ,							,	,				10	29,678	54,888	23.1
2			0	0											,					,	936	28,011	55,288	24.3
3		۰	۰	0	0	0	0										0		a		814	29,345	55,355	21.5
4			0	0				0								0				0	81/2	29.345	55,622	22.0
5	۰		0	0	0											0	0	0	0		8	30,840	54,890	25.0
D				0	٠			0				0				0		0	0	0	7% 6%	30,412	55,488	25.8
78			0	0		۰	0	۰							0	۰	0		0	0	6%	28,562	51,800	22.I
-				0			۰	۰				0							0	0	6	30,600	55,418	22.3
9			0	0	0		٥	0	٠	0				0	0	0	0	0	9		53%	29,475	55,333	25-4
0	۰			۰	۰	۰	۰	0			۵			۰	0	۵		0	0		5	29,278	55,887	21.2
Ä											0								0		4,,	29,705	55,532	25.7
2	۰	P		۰			0	0		0	0				۰	0	0	0	0	۰	31/2	31,817	55,482	26.7
3				0	0							0		0	۰			۰			3	31,123	50,180	27.0
4				0														0	0		2	33,428	56,428	27.0
5	,			0	0	0	0	0	0	0	0	۰	0			0		0			13/2	42,249	57,096	26.0
5	۰	0	0	0		0	۰	٥		0	0	۰	a	0			0			,	1	34,288	58,933	37.0
7						,	۰	0	۰	0				0	0					,	36	57,565	59,388	30.0
8				0.		,		۰	۰	0											Groove	45.442	71,300	

No. 7 had a bad seam; Nos. 1, 5 and 9 each a slight seam; Nos. 14, 15 and 17 were seamy. The pieces No. 13 and No. 18 were nearly the same in dimensions, the length of each being 3 inches, the diameter of No. 13, uniform for 3 inches, 0.970 inch, and that of No. 18 at the groove, 0.976 inch; yet the stress per square inch at which No. 13 broke was over 15,000 lbs. less than that required to break No. 18 Re. stress per square inch at which No. 13 broke was over 15,000 lbs. less than that required to break No. 18. By the table we see that the piece No. 13 gave higher results than those which were longer, the average tensile strength of Nos. 2, 3, 4, 6, 9, 10, 11 and 12 being 55,488 lbs. per square inch, while No. 13 gives 56,190 lbs., an excess of 751 lbs., thus suggesting that the length of this piece, viz. 3 nobes, was not sufficient to insure viz., 3 inches, was not sufficient to insure correct results. No. 12 gives a result much closer to the averages, as do Nos. 11 and 10. Assuming that the proper length should be a certain percentage of the diameter, we find No. 13, which is less than four diameters in length, is not long enough; No. 12, of about four diameters, gives correct results. In conclusion, our results lead us to the decision, conclusion, our results lead us to the decision, that in testing iron no test piece should be of less than ½-inch diameter, as inaccuracy is more probable with a small than with a large piece, and the errors are more increased by reduction to the square inch; that the length should not be less than four times the diameter in any case, and that with soft, ductile metal, five or six diameters would be preferable.

would be preferable.

These rules hold good in testing steel also, as may be seen by results which have been submitted to the committee of tests of Bessamer steel made at the Edgar Thomson Bessomer steel made at the Edgar Thomson Steel Works, of which the following is an abstract: Specimen No. 1, 1-inch square bar, turned to cylinder ¾-inch diameter for 6 inches in length. Strength per square inch, 110,036 pounds. Specimen No. 2, from same bar as No. 1, turned cylindrical for 4 inches, with a groove ¾-inch diameter in center. Strength per square inch, 140,423. center. Strength per square inch, 149,422 pounds. These results are confirmed by those obtained by Colonel Wilmot at the Woolwich Arsenal, which we quote as follows: Material, Bessemer steel; test pieces of 1-inch

Pounds 168,974
153,077
(9103,25
ng the cylinder form

sation of results of tests by tension upon test pieces, showing a preponderance of strength in favor of the bar in normal condition-viz., with the skin :

	Inches.	streng	nsile rth per e inch.		cess ength
Iron.	bar.	Lbs.	Lbs.	over Lbs.	over Lbs.
	Size of	Rough.	Turned.	Rough turned.	Turned rough.
D	13/4	51,499	51,895		396
D	156	51,127	50.383	744	1,191
D	174	52,156	53,347		1,191
Č	2	49,678	49.735	33	
Č	136	49,095	48,735	369	
C	1 13-16	49,510	51,367	845	
C	134	51,233	49,419	1,814	
E	176	51,739	49,044	2,695	
E	13/4	51,606	51,740	****	134
E	178	51,944	50,844	1,100	
E	1 1/3	55,411	55,409	3	
E	136	52,255	51,843	412	
E	276	53 894	53,300	585	****
Hammered	136	55,098	53,497	146	399
Hammered	156	56,818	54,143	2,675	
Hammered	134	57.280	55,021	2,250	
Hammered	11/4	55,542	55,805	-1-39	263

The evidence accumulated indicates that the strength of the skin of the bar is greater in proportion to its area than that of the rest of the bar.

(To be continued.)

Time Tests of Iron Wire.

wire taken as it was supplied by the wire drawer. Each length of the wire, therefore, as soon as it was hung up for experiment, was weighted with 28 pounds, and this weight was left hanging on the wire for 24 hours. Weights were then added till the wire broke, measurements as to elongation being taken at the same time. A large number of wires were broken with equal additions of weight, a pound at a time, at intervals of from three to five minutes, care being taken in all cases however, not to add fresh weight if the wire could be seen to be run down under the effect of the weight last added. Some were broken with weights added at the rate of 1 pound per weight last added. Some were broken with weights added at the rate of 1 pound per day, some with 34 pound per day, and some with 45 pound per day. One experiment was commenced in which it was intended to break the wire at a very much slower rate than any of these. It was carried on for some months, but the wire unfortunately rusted and broke at a place which was seen to be very much eaten away by rust, and with a very low breaking weight. A fresh wire has been suspended and is now being tested. It has been painted with oil, and has been under experiment for several months.

months.

The following tables will show the general

Rate of adding Weight.	Breaking Weight in Pounds.	Per Cent. of Elongation on Original Length,
Dark Wire. b. per minute. 5 minutes 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	45 4534 4534 4434 4434 4534	25.4 25.9 24.9 24.58 84.88 29.58 27.78
Bright Wire. 1 lb. per 5 minutes	4434	28.5 27.0

11 4	66		44%	97.I			
	II V	Vire Slow	vly Broken	4.			
Weight ad and numbe experime	or of	Breaki weight pound	in elong	Per cent, of elongation on original weight.			
z. z lb. per 4 2. 3		48 46 47 47 47 47 46 47 49	7-58 8-13 7-05 6-51 8-62 5-17 5-50 6-92 8-50	bright wise			
3.	0.00	48% Bro	ken by ac	cident			
4 5		46 46 4534	7.55 6.41 6.62				
1. 1/2 lb. per		48 50	8.26 8.42				
3. 4. 4. 4.		49 47 4634	7.18	bright wire			

first place, that the prolonged application of stress has a remarkable effect in increasing the strength of soft iron wire. Comparing the strength of soft iron wire. Comparing the breaking weights for the wire quickly broken with those for the same wire slowly broken, it will be seen that in the latter case the strength of the wire is from 2 to 10 per cent. higher than in the former, and is on the average about 5 or 6 per cent. higher. The result as to elongation is even more remarkable, and was certainly more unexpected. It will be seen from the tables that, in the case of the wire quickly drawn out, the elongation is, on the average, more than the elongation is, on the average, more than three times as great as in the case of the wire drawn out slowly. There are two wires 32 to 34 per cent.

COMPARATIVE STRENGTH OF BARS WITH AND WITHOUT THE SKIN.

for which the breaking weights and elongations are given in the tables, both of them "bright" wires, which showed this difference A few tests were made by tension for the purpose of ascertaining if the strength of iron bars with or without the skin would prove the same. The following is a condensate of the purpose of ascertaining if the strength of iron bars with or without the skin would prove the same. The following is a condensate of the problem of the proble treatment, except in the time during which the application of the breaking weight was made. One of them broke with 44 1/4 pounds the experiment lasting one hour and a half; the other with 47 pounds, the time occupied in applying the weight being 39 days. The former was drawn out by 28.5 per cent. on its original length, the latter by only 4.79

per cent.
It is found during the breaking of these It is found during the breaking of these wires that the wire becomes alternately more yielding to stress applied. Thus, from weights applied gradually between 28 pounds and 31 pounds or 32 pounds, there is very little yielding and very little elongation of the wire. For equal additions of weight between 33 pounds and about 37 pounds, the elongation is very great. After 37 pounds have been put on, the wire seems to get stiff again, till a weight of about 40 pounds has been applied. Then there is rapid running down till 45 pounds has been reached. The wire then becomes stiff again, and often remains so till it breaks. mains so till it breaks

Large iron works are being put up at Savons, Italy, for the minufacture of railway materials. The company undertaking the work is in connection with the firms of Golpin-Sue, Jacobs & Co., and the Société des Forges, Fonderies, et Chantiers de la Buice at Lyons. The scriety, as at present consti-tuted, is to list for 15 years, and it will in time be able to supply the bulk of the ma-terials required by the Italian railways.

The Iron

Metallurgical Review.

New York, Thursday, October 2, 1879.

Publisher and Proprietos DAVID WILLIAMS JAMES C. EAYLES . Editor. Business Manager JOHN B. KING -

RATES OF SUBSCRIPTION

INCLUDING POSTAGE.

IN THE UNITED STATES, BRITISH AMERICA AND

TO ALL OTHER COUNTRIES.

PER ANNUM. POSTFAID.

Weekly Edition: \$5,00-£1-25 francs=20 marks—I forins—6 roubles (coin)—25 lire—20 pesetos.

Semi-Menthly Edition: \$2,00-10/-112/6 francs—1 marks—6 dorins—3 roubles (coin)—12/6 lire—10 pe

Monthly Edition: \$1.25-5/-614 francs-5 marks-3 florins-114 roubles (coin)-614 lire-5 pesetos. REMITTANCES

should be made by draft, payable to the order of David Williams, on any banking house in the United States or Europe; or, when a draft cannot be obtained, in postage stamps of any country. NEWSDEALERS OR BOOKSELLERS

in any part of the world may obtain The Iron Age through the American Nows Company, New York, U. S. A.; the Wilmer & Rogers News Company, New York, U. S. A., and London, England: or the San Francisco News Co., San Francisco, California, U. S. A.

RATES OF ADVERTISING.

One square (12 lines, one inch), one insertion, \$2.50 one month, \$7.50; three months, \$15.00; six months \$25.00 one year, \$40.00; payable in advance.

DAVID WILLIAMS, Publisher, 83 Rende Street, New York.

BRITISH AGENCY.

The publishers of The Ironmonger, 44a Cannon street London, England, will receive orders for subscription and advertisements on our regular terms.

CONTENTS.

First Page.-Charles Bilven. Third Page .- Charles Bliven (Concluded) Spanish Iron Ore Deposits. The Profits of Early Steam Navigation.

Fifth Page.—Industrial Arbitration.

Beventh Page.—Industrial Arbitration (Concluded). A Cornice Machine in Litigation. Ninth Page.—A Cornice Machine in Litiga-tion (Concluded). Report of the United States Testing Board on the Properties of Wrought Iron

and of Chain Cables. Eleventh Page .- Report of the United States Testing Board on the Properties of Wrought Iron and of Chain Cables (Continued).

Thirteenth Page.—Report of the United States Testing Board on the Properties of Wrought Iron and of Chain Cables. Time Tests of Iron

Fourteenth Page .- Machinery and Production. Our Trade with Denmark. The Advance in

Fifteenth Page .- The Outlook in the Cornice Trade. Scotch Pig Iron. The American Institute Fair. The New Steamship City of Alex-

Nineteenth Page.—Industrial Items. Propo-sals for Iron Beams. Pittsburgh. Twenty-first Page.—Trade Report. General Hardware.

Twenty-second Page.-Hardware (Cont'd). Twenty-third Page,—General Hardware (Concluded). Iron. British Iron Market. Metals, Coal, Old Metals, Paper Stock, etc. Imports. Exports. Philadelphia.

Twenty-jourth Page.—Philadelphia (Con-cluded). Pittsburgh. Chattanooga. St. Louis. Boston, Cincinnati, Louisville. Twenty-sixth Page,-Baltimore. Richmond.

Our English Letter. Twenty-seventh Page .- The Iron Ago Direc-

tory Thirtieth Page. - New York Wholesale

Thirty-first Page .- New York Wholesale (Concluded). Thirty-seventh Page. - Philadelphia, Buffalo Chicago and Pittsburgh Hardware and Metal

Thirty-ninth Page.—Boston and St. Louis

Hardware and Metal Prices. A conference of more than usual importance in its bearings on the future of the coal mining interests of Western Pennsylvania, was held in Pittsburgh last Thursday. For some months past efforts have been made looking to the adoption of some method for putting an end to the frequent strikes turers generally are becoming indifferent which have been such an incubus upon this to a trade which is attended with so interest. Early in July the coal miners in many uncertainties, and in which cheapconvention appointed a committee of nine ness, however secured, is commonly pre to meet a similar committee of operatives if ferred to excellence. They have found it should be appointed, and to this end that while an export demand is deaddressed a letter to the Coal Exchange, sirable, it can only be judiciously enasking the appointment of such a commit The request was refused, and it appeared as if the negotiations were at an end; that a nation whose productive capacity is but through the good offices of parties not adjusted to the requirements of foreign connected with either side, both were prevailed upon to appoint conference commit- pled by the efforts of consuming nations to tees, which met, as stated, last Thursday, develop their own resources by extending and agreed that it was advisable to form a protection to home industries; and that with plan for arbitrating difficulties, and ap- a home market as great as that of the pointed a committee of six to draft such a United States to supply, it will be a long plan. What will be the outcome it is, of time before we have a considerable surplus course, impossible to predict; but the dispo- of anything except food products to export.

devised that would accomplish this result in the bituminous districts of Western Penn- that enterprising manufacturers are in sylvania, the probability of its introduction into other trades would be very flattering. The experiment is worth trying, at least, and the outcome of the present conference will be watched with interest by all who to industrial warfare

Machinery and Production.

How little even intelligent men reason, and how apt they are to hold opinions influenced by momentary conditions, has been so often remarked that the fact need no longer excite surprise. We find a striking illustration of this in the readiness with which they express, what they are pleased to call their opinions on economic and social questions of grave importance, without giving any evidence of careful thought or a more or less intelligently through their workings, as shown in the history of human progress towards a high and uniformly dereloped civilization.

When the panic of 1873 checked the some what too rapid industrial development of the country and set in motion the causes which restricted consumption, a great many very intelligent men jumped to the conclusion that we had reached the point of overproduction; that by usurping the place of labor and driving men and women out of the mechanical trades, machinery had brought upon the country the curse of superabundance, attained by means which had deprived the masses of the people of the chance of procuring what they needed or desired. They pointed, on the one hand, to the vast amount of labor-saving machinery available for employment in the productive industries, and on the other to the thousands of idle men and women who could find no employment, and assumed that one was the cause of the other. From this they drew the conclusion mistaken for a blessing; that labor, driven eventually degenerate into helpless pauperism; that the effect of machinery was to make the rich richer and the poor poorer; and that, with our present practically unlimited capacity for production, the only hope for the industrial future of this country was found in a great and increasing exportation of manufactures. Having a superabundance, we must unload foreign markets or stop producing and be ruined. As no one could suggest any practicable means of checking mechanical progress, or of preventing a further application of machinery in the arts, its ruinous influence upon the interests of labor was accepted as an inevitable fact, though one to be greatly deplored; and unless we could induce other nations to share the ruin it had brought upon us, it would crush our unhappy people into the mire of hopeless

poverty.

This theory of the influence of machinery upon the industrial prosperity of the nation gained great currency, and was argued with carried conviction to the minds of many. It would be interesting to know how many of those who thus believed and talked two or three years ago, think now as they did then. We do not consider that we are entitled to any credit for having persistently denied the fact of overproduction and contradicted the assertions of those who discovered the causes of industrial depression in machinery but it is a satisfaction to know that all this fallacious reasoning has been answered by the happenings incident to a revival of the industrial and commercial activities of the country. Even with our machinery, the demands of trade are taxing our productive capacity; the steam whistle and the factory bell are recalling to steady and profitable employment the working classes, whose labor is needed to supplement the tireles which seemed at one time to have snatched from the workingman his daily bread; wages are advancing, prices are yielding profit to the producer, and the outlook is so full of promise that not a few are predicting that the progress and general prosperity of the next ten years will be without parallel in the history of this In no respect has the truth of the ountry. overproduction theory been established. So far as manufactures are concerned, the demands of foreign markets have been unimportant, and now that the export excite ment has in great degree died out, manufaccouraged to a limited extent, for reasons which need not here be given in detail; markets, is always in danger of being cripconsumption, and no one is surprised to hear many instances enlarging their works and putting in more machinery, as the only neans of overtaking their orders.

gloomy views of the future in times of de- catch of fish is poor, the condition of the deal with labor and who deplore the resort pression and shrinking values, and that so convenient a word as overproduction should suggested to these people that they emigrate be currently used and generally accepted as en masse to the United States, abanan explanation of conditions which force a doning the island. If great facilities were uspension of industrial operations and granted them, this plan might become a check the movements of trade. All that reality. These hardy Danes would prove a can properly be objected to in this connecvaluable accession to our agricultural popution, is the confident utterance of undigested lation, as the Danes, Swedes and Norwegians opinions by men who venture before the are declared to be the best immigrants public as exponents of theories in political we get. economy and social science. It is difficult which men form, and the eagerness with to estimate the amount of harm which does, or may, result from such utterances. In the West, one effect of the talk concerning the influence of machinery upon the interests of labor has been the destruction of knowledge of the laws which may be studied thousands of dollars worth of agricultural machinery and of machine-harvested grain, " tramps, said to have been by more probably by farm laborers who were dissatisfied with the wages they earned. It has also led to more or less destruction of mill and factory property by incendiaries, and furnished demagogues a text from which to preach false sermons that have poisoned the minds of the working classes. Liberty of opinion and freedom of speech are valuable privileges, but good citizens should be careful not to avail themselves of these privileges to the injury of society by the dissemination of false and mischievous doc-

Our Trade with Denmark.

Denmark is a country with which our dealings have of late years increased considerably, more so than with the majority of European countries. It will, therefore, be of interest to note recent developments in that country, which, especially in shipbuildthat machinery was a curse which had been ing and everything relating to marine affairs, have been surprisingly rapid, contrary to from one employment to another, must the general tendencies observable since 1873 in the rest of Europe. There is a great deal of vitality and elasticity in the Danish nation. and this energy, which no disaster seems to curb, explains the facility with which Denmark recovers from blows and losses of ter ritory which would have crippled forever any other nation reduced to a small population of now barely 2,000,000 people.

The Danish monarchy is one of the most an cient in Europe, and during the Middle Ages heid sway over the whole of Scandinavia.

As early as 982 the Danes discovered America (Greenland) on one of their roving expeditions from Iceland. They and the Norsemen pushed their piratical adventures in all directions, the Danes landing in England, and the Norsemen in Northern France and Russia. During the thirty years' war the Swedes decided the fate of Protestantism in the heart of Europe. Since then they have lost ground everywhere. Russia and Prussia now hold flourishing provinces once Swedish or Danish. In 1814 Denmark lost Norway, and 15 years ago she lost the rich Dano much zeal by men whose specious reasoning German Duchies, reducing her population about one-half.

It has since been suggested that Denmark should join Sweden and Norway, thus re viving the Scandinavian realm as it was of old; but the Danes prefer autonomy to absorption, and strive to make the best of the little that has been left them. Their high state of civilization, their accomplishments in science and the arts, rank them on a par with the foremost nations, and although politically they are now of little account, especially in a military sense, they enjoy the respect of the whole world. Their colonial ossessions are not of much importance. Some years since the United States came ing, as it does, the Sp energy of the arms of iron and fingers of Rico. Since then another Danish island to notice by a negro insurrection there last year. The fact is that these Danish West Indies are of little value to the mother country. Indeed, they are more of a burden than anything else, and sooner or later will be sold or exchanged.

Our trade with St. Thomas, which is a free port, is, however, still quite extensive, although less so than formerly, when the island was a sort of entrepot of American and European goods for all Northern Span ish America. St. Thomas has been for half century the leading port of call in the West Indies, and to a certain extent it is still, on account of its geographical position, deep harbor and dry-dock facilities. It has always been the nucleus of steamship navigation in the West Indies. All British, American, German and French steamers call at or radiate from this center of traffic.

American interests have, however, so far as sugar planting is concerned, at all times more particularly toward St. inclined Croix, the larger sister island, and for 30 years the excellent sugar made there was nearly all shipped this way till superseded by Demerara and Porto Rico, whose sugars are equally good. The planters of the island had meanwhile grown rich on this American trade, until, in 1848, the abolition of slavery changed the labor system, and without attracting new labor from India sition that has been shown in favor of some For the moment the idea of overproduction was the case in Demerara and Trinidad,

other plan than strikes and lockouts for set- has given place to the fear that the supply this great planting interest has been pining tling industrial disputes, is a happy augury of many classes of manufactures will this away every year, ending in discontent and for the future. If some system could be year fall below the actual requirements of insurrection on the part of the black freedmen.

> island is situated in such a high Northern latitude that no cereals will grow except a attention. It is perhaps natural that men should take little rve and barley, and whenever the people borders on starvation. It has been

districts:	-Popu	lation-
miles. Copenhagen	1870. 197,576 799,046 788,119	1878. 250,020 824,000 866,000
Colonies.	1,784,741	1,940,00
Faroe Islands 520	9,992	11,000
Greenland39,943	69,763	72,000
St. Croix 85	22,760	
St. Thomas 34 St. John's 31	1,054	37,60

spending a great deal of money on explorations in the interior of Greenland; and this vear, headed by Lieut. Jensen, an important expedition was made to those regions during midsummer, the scientific results of interest on both sides the Atlantic.

The following table shows the foreign trade of Denmark proper in 1876, in thou-

sands of dollars:		
	Import.	Export.
England	14,768	19,021
Germany		13,205
Sweden	6,723	6,520
Norway	1,543	4,042
Russia	2,378	289
Holland	1,929	256
Belgium		269
France		44
Iceland		752
Greenland		129
United States		4
Danish West Indies	24	50
Brazil		
Faroe Islands		104
Other countries	3,245	480
Total	57,010	45,165
This trade embraced the	following	classes
of goods in millions of dolla	ITS:	C. 10
The second of the second	Import.	Export.
Food	18,35	36.45
Raw material	20.00	4.56
Manufactures	TE 15	9.40

MARITIME MOVEMENT IN 1876. rrivals, Sail. vessels. Steamers, —T coast- No. Tons. No. Tons. Ves.

lantic.	16,065 184,683 DENMARK'S			417,533
	Sailing vess No. To	ns. No.	Tons.	Horse- p'wer
73	2,609 175	657 109	21,602	6,912
74		,219 123	87.381	7,988
75		,165 169	39,478	11,500
76		,460 x80	43,720	12,340
			-Total	
		Ve		nnage.
73				197,250
	*********			212,600
75				250,643
20				

This rapid increase of shipbuilding in Denmark, particularly as to steamers, should be noted.

Of government lines of railroad there are operation 511 miles, and of private lines 350, together, 861; government telegraph lines, 1915 miles, with a length of wire of 5418 miles; offices, 116. Aside from these government lines there are those belonging to the various railroad companies, with 108

The number of letters which passed through the Danish post offices amounted in 1875 to 20,088,138; newspapers, 19.318,353; postal orders given, 376,706; distributing in very near buying of them the little island of money, \$3,225,054; money received from able than a surplus at the principal centers of St. Thomas, strategically and commercially abroad through the post offices, 161,886 oran important spot in the West Indies, flank- ders, with \$583,411; registered letters, with anish island of Porto \$128,321; samples, 1,367,834.

The public debt of Denmark is small, for it railroad lines, which pay into the treasury a good annual net revenue

Denmark and her possessions, reduced to

thousands of	dollars	:		
	Import.	Dom. Export.	Foreign Export.	Total Trade.
1864	330	1.263	53	1,546
1865	295	1,558	40	1,893
1866	462	1,289	8	1,759
1867	642	1,124	49	1,815
1808	609	1,355	0.1	1,904
1869	639	3,074	39	2,352
1870	- 629	1,405	83	2,117
1871	674	2,521	2.4	3,209
1872	780	1,800	68	2,648
1873	474	2,438	37	2,949
1874	457	2,431	22	2,910
1875	586	1,841	9	2,436
1876	395	1.587	13	1,995
1877	438	4,073	9	4.583
- N N			- 1	. 5

The sudden increase in our domestic export, chiefly to Denmark proper, will be

The following are some of the principal articles of domestic production we have exported thither, including the colonies, during the fiscal year ended June 30, 1878 :

and and account	,	3-1	
Indian corn	\$1,034,519	Cartridges	\$234.47
Corn meal	94,207	Bacon	113,00
Rye	22,605	Beef	10,86
Rye flour	17,145	Pork	32,01
Wheat	74,015	Butter	€ 85,29
Flour	173,299	Lard	259.75
Coal	35.671	Fish	18,41
Cotton goods	52,010	Leaf tobacco	80,23
Mfs. of hemp	12,761	Lumber	16,42
Mfs. of steel	102,400	Staves	15,46
Rosin	18,164	Poles	9,25
Crude petrol	10,000	Wooden ware	14,48
Refined "	1,201,507		

Denmark proper takes from us, when there are short crops in Europe, large amounts of grain, and at all times petroleum. They begin to take steel goods on a more ex-The population of Iceland, 72,000, are also tensive scale, and we believe business in that far from being contented with their lot. The quarter is capable of indefinite increase, if our manufacturers will but give it special

The Advance in Stoves.

During the past fortnight most of the stove manufacturers have issued circulars to the trade announcing that, in view of the recent advance in the price of iron and in the cost of molding and mounting, it is necessary to advance selling prices. It may not be generally known to our readers that this movement is the result of a meeting of manufac turers, held about three weeks ago in Cleve. land. At this meeting about forty manufacturers were represented, and an advance of 10 per cent. in selling prices was agreed upon. In view of the demoralized condition of the trade, and the probability that there are still some manufacturers who believe that to be enterprising they must do business without profit and not permit their competitors to make anything, it was deemed prudent not to advance prices too rapidly; but considering the tendency of values in the iron and labor markets, another advance of 10 per cent. will be necessary, if selling prices are to be kept ahead of cost and a profit is to be realized. At that time the increased cost of a ton of stoves, as compared with the cost when the first effort to give firmness to prices was made early in the season, was represented which will be watched with a great deal of by the following items: Iron, \$7; other materials, \$2.50; labor, \$6; together, \$15.40. This, as near as may be, was the actual increase within three months of the cost of stoves per ton, when made under conditions as favorable to economy as we find them in the average of our foundries. The previous basis of cost, to which this \$15.40 must be added to give total cost per ton at the time the advance was made, can only be estimated, but, fortunately, we are in a position to estimate it with considerable accuracy. In September of last year we obtained several estimates of the actual cost of stoves, compiled by well informed manufacturers. The average of these estimates—one of which was much too low—was \$102.60, with iron at \$20 per ton. Adding \$15.40 we have \$118, or 5.9 cents per pound. If we assume this estimate to be excessive and take \$110 as the cost per ton at the time the 10 percent. advance was made, we find that the 51/2 cents per pound, which is about the basis fixed by the Cleveland meeting, would only about cover cost at that time. How is it now ! Since the 10 per cent. No. Tons. No. 1008. ves. 1008. 15.596 199.002 7,569 168,136 23,165 367,138 advance iron has increased in price from 16,498 772,151 6,325 369,224 22,823 1,141,375 \$23 to \$28 as a bottom figure for No. 1, so By sea. 16,498 772,151 6,325 369,224 22,823 1,141,375 \$23 to \$28 as a bottom figure for No. 1, so Dep tures Coast'se 16,914 173,863 7,211 171,193 24,125 345,056 that we have as our estimated present cost on Transata3000 ton product, \$122.60 per ton, or say 61/6 cents per pound. Making the same allowance as before, and assuming present cost to be \$115 per ton, we find that to get back the cost of goods on a 51/2 cent per pound basis will require some skillful financing In the words of the ballad-

ti riii fi m mir att the cottle

for he with be certificated

tio its

an the po special will an erection or chi Sou man time that the three chief the chief

cou las bus cin

Wo

tow

imp

ness

olate

origi

the c

fron

and

jour

Ame

cepti

dulg

base

ргеве

the E

incre

impr

mast

ated

been

" No man who tackles a sum like this Can do it easily."

We have no doubt that values in the stove business will adjust themselves before long, and that during the next few years this important industry will be fairly remunerative; but it has not yet become so, and with iron taking a balloon flight toward \$35, an advance of 10 per cent. over the prices of the post few months will amount to very little. The greatest danger is that labor will misjudge the situation, and make unwarrantable demands which cannot be conceded. This has already occurred in some parts of the West, notably at St. Louis, Louisville, New Albany and other points. exception the outlook is encouraging. The demands of the trade have been unusually large this season, and a scarcity is more probproduction and distribution. The prosperous condition of the country warrants the ex-pectation of a very large consumptive demand, and dealers have hastened to order St. Croix—has been prominently brought does not exceed \$22,000,000, the bulk of largely and early, to take advantage of lower which is represented by the government prices than they are likely to see again for some time to come. The manufacturers are doing all they can, but their stocks are The following table shows our trade with broken; few of them could fill orders for a full line of anything, and many are far behind their present orders. As the rule, they hold fair and liberal views in the matter of wages, and are willing to make such further advances as the improved condition of the business may warrant. But an attempt on the part of the molders to force a rapid advance in wages would be a serious mistake, likely to result in disaster to mas-

> On the 24th ult., a collery near Scranton was the scene of an accident which again proves the necessity of strict military discipline in the management of the men em-ployed in coal mines. On the day mentioned the ventilator of the Sloan Colliery, operated by the Delaware, Lackawanna and Western Railroad Company, had been stopped for re-The whole system of underground ventilation was therefore at a standstill, and every miner knows that, under such circumstances, fire-damp rapidly accumulates and has every opportunity to gather in dangerous quantities in certain localities. It is the custom to suspend work under such circumstances, and the mine is entered only with great precaution. Notwithstanding this, a gang of men went to work in the

tv

nt

al-

ted

of

be

sti-

be

and

hat

ent.

61%

cost

ve;

the

tle.

led.

s of

ille.

The

rob

wer

for

are

far

ule.

such

tion

at-

nas-

nton

gain

em-

oned

ated

tern r reound and and

rous

nly ing

mine. One, it appears, mounted a coal car Mr. James M. Swank, estimates the probaand his lamp ignited the fire-damp ac- ble consumption of pig iron for the year This is another instance added to the long lessness of the miners and the hardly less tendents, and it is sincerely to be hoped that the proper authorities will, under the proones to speedy justice.

The Outlook in the Cornice Trade.

From information obtained from various sources we are led to believe that the outlook in the cornice trade at the present time is very much more encouraging than at any previous period for several years. While the market for galvanized iron was unsettled and the price was declining, the temptation presented to the small concerns in the business to venture upon even quite large contracts at very low was considerable. There seemed to be a chance for profit at almost any contracting price. The result was disastrous to the trade. Prices for manufactured work became altogether unsettled, and no profit was made by any one. Many of the largest and best concerns were forced into bankruptcy, by reason of the losses sustained in competing with irresponsible concerns of this character in the vain attempt to hold trade. All this, to a very considerable extent, seems to be changed at the present time. The sharp advance which has already taken place in the price of galvanized iron, together with the prospect of a still further increase in the cost of the cornice maker's raw material, has made the small men quite cautious in the matter of contracting, and the conditions of the trade are such at present that a fair profit is afforded to those who are properly equipped and who conduct business carefully. In addition to this, the volume of trade at present is much larger than for a long time past.

The New York shops are fairly busy; there has been considerable building going on in this city during the past two years, and the cornice men here have not suffered for the lack of trade to the same extent that has been the lot of some of the Western men. While crediting the New York shops with a fair amount of work, we may mention that one of the largest contracts which has been let in this city for some time was re-cently secured by the proprietors of the corrice works at Salem, Ohio, an institu tion which is widely known by the extent of its business and the superior equipment of its shops. The contract to which we refer Macdonald, that their policy, poor as it was, amounts to nearly \$16,000, and is for some of the depots on the east-side line of the Metro-politan Elevated Railroad. Inquiry with re-spect to this concern results in statements which indicate that it is at the present time quite prosperous. It is employing about 75 men, and in some of its departments its by the idle furnaces-would be to cut down orders are such that to meet them the machinery is kept running night and day. Something like 550 contracts have been made since the first of January.

The cornice shops at Pittsburgh report business better at present than for some time past. It is estimated that there is about three times as much cornice work in the country to be done this year as there was last year. The Cleveland shops are fairly busy, as also are the shops at Dayton, Cincinnati and Indianapolis. Reports from other points are also favorable. A large contion with a view to working off accumulated cern at Toledo are engaged upon the work for the new court house at Newark, Ohio. It may be remembered by some of our readers that the new building which was tricts. The struggle is one which cannot completed at Newark about the beginning fail to injure the Scotch iron trade, while of the present year, was destroyed by fire almost immediately after its occupancy. The new edifice which is now being erected is of the same design as as the former one, but is the same design as as the former one, but is being constructed entirely fire-proof throughout, instead of with a wooden mansard and of operatives in the iron trade of the North be met with at every succeeding fair of the tower as before.

We are very glad to be able to report an improvement in this line of trade, in which many of our readers are interested, and hope still greater prosperity may overtake this industry before another season's business is closed.

English ironmasters are considerably clated by what they term the revival of the iron trade, and all agree in attributing the origin of the better tone of the market to These classes of workmen were claimed by the orders which have come to them chiefly from this country. Unexpected good news is apt to make the less cautious sanguine, and so we find that while many English introduction of the latter had operated journals which have closely followed the chiefly in favor of the men, whose wages, course of events in this country, look upon the renewed demand of iron and steel from chinery, had been considerably increased America as the temporary result of an ex- owing to their ability to turn out more work ceptional state of affairs, some others in- The justice of the demand of the masters dulge in prophecies for the future which are whose right to earn the reward of their based upon erroneous suppositions. There enterprise no one will dispute, is obvious. is, perhaps, nothing which would at the Opposition on the part of the men is calcuis, perhaps, nothing which would at the present juncture be as acceptable to American ironmasters as a rapid improvement in the English iron market, if due to either an increased home demand in England, or an improvement in its shipments to European countries or the colonies. English ironmasters should not be led to form exagger-ted envisions as to the market which has a compact of the short-sighted ness of their leaders, who ought to be capable of discriminating more between a good and a bac cause. A second case of a dispute between a good and masters should not be led to form exagger-ted envisions as to the market which has a compact of the short-sightedness of their hot-air engines. The switch controller two sizes of their hot-air engines. The switch for this market the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the working cylinder, so that the furnace is completely separated from the substance of the exhibited by Mr. Henry Greenway, of their leaders, who ought to be capable of their headers, who ought to be capable of their headers which has a completely separated from the working cylinder, so that the furn

cumulated at the rcof. A terrible explosion 1879 at no less than 3,000,000 tons. Last followed, by which five of the men were year's production was 2,577,000 tons, an inseriously burnt and narrowly escaped death. crease of 250,000 tons over the preceding year, therefore it would appear that there list of accidents caused by the criminal reck- is a margin of fully 400,000 tons which must free to call for a variation by giving at least be supplied to America by other countries. culpable laxity of discipline of mine superin- This striking result is arrived at, probably, by assuming that all our idle furnaces would continue to remain unproductive, and that visions of the ventilation act, bring the guilty the steady rate of increase noted in 1878 ones to speedy justice. production to the highest ever reached, 2,870, 000 tons, has been interfered with. Both of these possibilities we know have not happened. A very large number of furnaces which have been cold for many years are now in full blast or are preparing to resume operations, and we have amply shown during the course of the present year that, even before the recent strong advances, a steady improvement in the quantity of the output has been discernible. Unless, therefore, the demand exceeds the estimated figure, 3,000,ooo tons, the deficiency between our supply and the requirements of the market will be far from the exaggerated estimates given above.

Scotch Pig Iron.

The situation in the Scotch pig iron market is peculiar, and possesses a special interest for Americans, as the supplies to be drawn from that country are expected to be of unusual magnitude during the present and coming months. As the cable has already announced, the Scotch ironmasters have determined to blow out 29 furnaces, and the mail just received gives in detail the causes of this unusual step in the face of improving demand. It appears that some time since a consider. able number of the Scotch coal miners de termined to better the condition of the coal trade by reducing the output, and thus obtain a basis for the advancement of wages. In this they succeeded, at least partially, an advance of sixpence per ton being granted to the pitmen. The ironmasters relied upon large stocks, both in stores and in their own hands, especially as these stocks, instead of diminishing within the last six months, had gone on accumulating. They concluded to counteract the pressure put upon them by the miners by withdrawing from the market and blowing out onethird of the stacks in operation. That this was not an idle threat is shown by the fact that 12 are already blown out or damped in the Coatbridge district, and that the Clyde Iron Works, Coltness and Castlehill have followed their example. This move ought to have taught the leaders of was likely to fail. They determined, how ever, to face the difficulty in quite a differ-ent manner, and came to the conclusion that the best way to meet the withdrawal from the market of between 5000 to 6000 tons of coal-the quantity consumed weekly the work of each miner by half a ton per day, which, even if acceded to by only onehalf their number, would, in the words of Mr. Macdonald, "be sufficient to handicap "the ironwasters." Who will win in this "the ironmasters." Who will win in this folded their tents and as silently stole struggle it would be difficult to say. On the away. It is doubtful if they will make any one hand, the ironmasters will soon find it difficult to convince the men that their plea of being unable to meet English competition is a just one, in the face of an improved de mand and a strongly rising market. If. tion with a view to working off accum stocks, the coal miners will find it difficult to maintain a higher scale of prices in the face of competition of adjoining coal disit will be favorable to competing countries.

Some time ago it was announced by cable of operatives in the iron trade of the North of England should be reduced 121/2 per cent., instead of the 15 per cent. claimed by the masters. Later news states that at Jarrow work has been resumed by the men under protest, and that the workmen at Stockton and Hartlepool have followed their example. It appears that this award applies to the tonnage rates of rollers, heaters and shearmen in plate and sheet mills, and to forge rollers and shinglers working for such mills the masters to be overpaid, as their labor had been considerably facilitated by costly improvements in plant and machinery. The based upon old standards of capacity of ma-

the necessity of a reduction, as prices had fallen considerably since the last award. They asked for a reduction of sixpence per ton in puddling, and 5 per cent. in other forge and mill wages. This the arbitrator has refused to grant, leaving each party one month's notice. He has based this decision largely upon the signs of improvement which have been noticeable in the North of England for some time past.

The action of the Western Iron Association, at its meeting at Pittsburgh last Friday, in advancing the card rate on iron to 3 cents, was not unexpected. Indeed, it would have been no surprise had the advance been even greater than this. Buyers have been running about among the Western mills offering almost any price for iron for immediate delivery, and have in most cases found it impossible to obtain it. We question if, on Monday of this week, the day the advance went into effect, an order of any size for immediate delivery could have been placed in the West. The peculiar feature of these recent advances is that they have been made by buyers and not sellers. It is the offerings of the consumer, not the demands of the manufacturer, that have fixed prices. The conditions of the market are such, however, that there is little fear but the present rate will be maintained, if, indeed, it is not advanced. Many mills have orders on their books without date or price, to be filled when needed, or when they can be, at whatever may be the ruling rate. These orders give assurance of work at the present or advanced prices, and will have an inflence in keeping the market firm far into the future.

Notwithstanding the largely increased output of Lake Superior ore, all the stock, and nearly all that will come to the lower lake ports this season, is taken, and it can safely he assumed that the probable amount of ore has been figured out, and that the make of all the furnaces in the West dependent on this ore has been counted. The advance in price of this ore has been as great as the advance in iron. On Thursday last hematite ore, that sold early in the season at \$3.75 per ton, 6 months, sold at \$7, spot cash. Republic can hardly be obtained at any price. Lake Champlain coldshort ore for fix has advanced from \$6 to \$8.50. The importation of foreign ores will not affect the price much this year. All these indications point to firmness in the market, if not to a considerable increase in price for pig iron.

The committee on the causes of the present depression of labor, somewhat irrelevantly called the "Depression Committee," have disbanded and returned to their homes. Hunting for depression under existing circumstances was too solemn a joke to be longer continued. If the members of the ommittee had any appreciation of the ludicrous, it must have come to them when they saw their reflection in the mirrors of their hotel parlors as they owlishly filed in to ex amine witnesses on the depression, with tel egrams pouring in announcing advances in almost all commodities. It became too funny at last, and, like Longfellow's Arabs, they

The American Institute Fair

In harmony with its traditions, the Amer ican Institute Fair has this year opened long before the exhibitors were ready—which would probably have been the case had it opened a week or a month later. Perhaps exhibitors think that the noise of hammering and the confusion of disorder are judicious advertising expedients. It will require at least another week to fill the empty spaces and disband the army of busy workmen. In the meantime, however, the exhibition is not without interest.

Beginning in the Machinery Annex (we are glad it is not called Power Hall), at the American Institute—and also a few novel-ties. Woodworking machinery, as usual, occupies a comparatively large space in this annex. Among the exhibitors in this class are the Millers Falls Company; J. H. Blaisdell; James T. Pratt & Co., of this city; John A. White & Co., of Concord, N. H.; and H. B. Smith, of Smithville, N. J. The exhibit of the last-named firm includes foot athes, a small planer, circular and scroll saws, a panel raiser, a gang saw, a mortiser

saws, a panel raiser, a gang saw, a mortaser and a rod machine. We find the Pierce well excavator in operation. In this the drill rises and falls 18 inches, at the rate of 60 strokes per min-The manufacturers claim that it will drill a 6-inch hole in hard rock at the rate of 10 or 15 feet per day.

Two Blake stone crushers are industriously

working their powerful jaws eating stones. Another stone crusher is exhibited by the Farrel Foundry and Machine Co., of Ansonia, Coun. A little further on we find a man at work putting together a machine for makedsteads, exhibited by A. G. Betts, Troy, N. Y.
The Brown Caloric Engine Co. exhibit

each other, so that any required degree of provided with a curved rack and detent, expansion may be obtained; and finally, connected by suitable mechanism with

are told, will require considerably less than a minute. The tanks are made of steel plate 5%-inch thick. This system will be tested shortly on the Second avenue cars. W. C. Duyckinck, of this city, exhibits ma-

chinists' tools, steel wheelbarrows, lifting acks, gas, air and vacuum gauges, universal lathe dogs, &c. The steel barrows are manufactured by the Jackson Mfg. Co. The dish is stamped from a solid plate, the bottom being made heavier than the sides. A continuous flanged head around the rim adds stiffness to the barrow. The handles are made from channel bars. The axle is stationary and serves as a brace for the handles.

John H. Coleman exhibits a novelty in the

form of a self-measuring tank for oils and other liquids. Measures having capacities of one, two and four quarts, respectively, are located underneath the bottom proper of the tank and are inclead by the tank, and are inclosed by an extra wooden bottom. Each measure is provided with a three-way cock. When this is closed the measure communicates with the tank and becomes filled, and when it is open the communication with the tank is shut off. The advantages claimed are the saving of time and labor of pumping, pouring and measuring, and the fact that the contents can be drawn in the dark, thereby, in the case of oil, doing away with the danger incurred by the use of a lamp. Although no pump is required to draw the liquid from the tank, each tank is provided with a pump for the purpose of filling it from the barrel.

from the barrel.

E. D. Bassford, of this city, exhibits celluloid articles, such as knife steels, grindstones, hones, &c., manufactured by the Celluloid Emery Wheel Company, of New-

ark, N. J.
Dailey Bros., Detroit, Mich., have on exbibition a patent sample and merchandise mail case. It is intended to meet the requirements of the amended postal laws, admitting to the mails merchandise such as grain, flour, teas, coffees, pins, needles, tacks, nails, &c. The case is made of tin and has a wooden cover, which is turned on a central screw soldered to the bottom. For examination of the contents the cover is unscrewed. The cover is provided with ed. The cover is provided with which engages in the rim of the

a flange, which engages in the rim of the case, making a tight joint.

The American Vegetable Fiber Company, Limited, Philadelphia, exhibit Norbert de Landtsheer's machine for treating flax, Landtaheer's machine for treating flax, hemp and other similar plants. It consists of a cast-iron frame, a stationary feed board, two pairs of fluted metal rollers, a sheet-iron drum or cylinder furnished with blades or beaters of wood at regular intervals around its circumference, and the necessary driving whileys wheels and the necessary driving-pulleys, wheels, pinions and gears for automatic operation. This machine performs two distinct operations on the staple treated; the object of the first is to break the stem or "boon" forming the wooden interior of the flax or forming the wooden interior of the flax or other similar plant; the second is to beat or scutch out this "boon," leaving the fibre in a condition to be mechanically divided in the heckling machine. The following description of the operation of this machine is taken from a report of a committee appointed by the Franklin Institute: "The stalks of hemp or flax which have previously undergone the process of retting or rotting, are placed upon the feedtable of the machine and fed to the first pair of fluted rollers or cylinders in the direction of fluted rollers or cylinders in the direction of the fiber's length. These fluted rollers are supported in journal boxes which allow the teeth or flutes to mesh, but prevents them from coming in contact at the bottom of the flutes. To these rollers is imparted, by suitable mechanism, an alternate circu-lar motion, forward in the direction of the lar motion, forward in the direction of the scutching drum and backward in the direction of the feed-table: the forward motion being the greater. This, while imparting a reciprocal movement to the fibrous stalks, thus effectually breaking the 'boon' or woody interior, at the same time carries the 'strick' or broken portion forward, to be still further operated upon by the scutching drum or cylinder. This drum is of sheet iron, affixed to cast-iron rims or spiders, is

ing its beaters with a downward blow against the pendant fibers, beating out the boon, or broken wordy interior. This operation is still further aided by the current of air set in motion by the revolution or the drum which winnows the chaff from gate number of visitors from the 10th inst. the long lines of fibers. When the stalks to the 17th inclusive was 60,489, and on little beyond the center of their langth the the long lines of fibers. When the states have been fed between the fluted rolls to a little beyond the center of their length, the alternate circular motion is converted automatically or by hand to a rapid continuous reverse motion, which delivers the strick to The street crossing at and around the C. H. matically or by hand to a rapid continuous since the commencement of 170,331 visitors. The street crossing at and around the C. H. and D. Depot are crowded with the immense in turn undergo the above-described operation, and the fiber is discharged as before, free from straw or boon, and in straight, untangled lines. The mechanism designed with the clearly and West. The other reals leading to the size of the transportation of passengers over it from the North and West. The other reals leading to the circumstants of the stransportation of passengers over it from the North and West. The other reals leading to the circumstants of the stransportation of passengers over it from the North and West. to impart the alternate circular and continuous reverse motions to the fluted rollers, consists, in its essential features, of a concentric pinion wheel brought into alter-

Numerous devices have been invented to been temporarily opened to them in this country, and yet there seems in some quarters a disposition to do so. The reasoning has been the following: A good authority, and the month of September the masters urged to the masters urged to the masters urged to the masters urged to them in this country, and yet there seems in some quarters a disposition to do so. The reasoning has been the following: A good authority, and the month of September the masters urged to them in this terest to Americans, as showing that an imterest to Americans, as showing thas a control of the interest to Americans, as showing that an imt

plant represents Winter's system of furnish- tender is provided with a contrivance simiplant represents Winter's system of furnishing compressed air to tramways. According to this system the compressed air is stored up, under a pressure of 400 pounds, in steel tanks placed at regular intervals along the route where the cars can stop to take in their supply of air, an operation which, we are told will require considerably less than due course. due course.

The New Steamship City of Alexandria.

Citizens interested in our merchant ma rine have reason for pride in the superb new steamer City of Alexandria, recently arrived at this port from John Roach's ship-yard on the Delaware, to take her place in the Alexandre Line to Havana and Mexico. In construction, arrangement and internal fittings she has never been surpassed, at least on this side of the Atlantic. So far as concerns the ship-joinery, she can with safety be pronounced unequaled. A rep resentative of The Iron Age casually met on board Mr. Wm. L. Youle, formerly secretary and treasurer of the old Collins Line tary and treasurer of the old Collins Line of Liverpool steamers, who contrasted this most modern of American built steamers with the once famous line. To illustrate the stupendous strides made by our ocean marine within a comparatively few years, Mr. Youle remarked that here we have in the Havana trade a steamer as large as any built by Mr. Collins, which in their day were considered enormous, But difference in magnitude is not indicative of change so much as the improvement in of change so much as the improvement in engines. Mr. Collins expended at least \$100,000 at the Novelty Iron Works in experimenting with surface condensers, which he endeavored to introduce, without success. He had the benefit of two patents, known respectively as the Sewell and Pirson, but the apparatus constructed under these worked well only a day or two, and then "gave out," owing to mechanical imperfec-tions. Had the result been otherwise the American flag might now be carried by a merchant fleet second to none in the world. The surface condenser would have made a difference of 40 per cent. in the consumption of fuel. The Collins steamers would have gone to sea drawing from 1½ to 2 feet less water, and entered port with a much better sailing draft; in other words, the immersion of the wheels would have averaged far more favorably, instead of the highest speed being made only in mid-ocean. Again, the saving of cargo space would have been important; but the great loss of power was in using ocean water, filling the boiler with salt and necessitating the wasteful process

of "blowing off."

Last Monday, by invitation, a number of newspaper men met on board the City of Alexandria, and at the suggestion of the writer, Mr. Alexandre, Sr., favored the company with some observations concerning the trade to Havana and Mexico. The firm now own six splendid steamers, and there being no stockholders to consult, the line was probably run with the best economic results. The trade was constantly increasing. For example, when they commenced running in 1867, the receipts of hemp from Yucatan amounted to only 2800 bales; last year the total was 65,000 bales, and the estimated freight from that source for the current year is 75,000 bales. But Mr. Alexandre thinks the United States government should be at least as liberal as the Mexican government in granting subsidies. The return made would be in the shape of reduced rates would be in the shape of reduced rates of freight, encouraging manufactures and incidentally contributing to the prosperity of the whole country. The American line has to contend with sharp rivalry from foreign steamers. Lately two new lines have been started in opposition, one from Antwerp and another from France, both subsidized

one from Antwerp and another from France, both subsidized.

The city of Alexandria was launched on July 9. She is 333 feet long over all, 38.6 feet beam, 25 feet deep from main deck, 33 feet deep from hurricane deck; is 10 feet longer, 6 inches wider and 2 feet shallower than the City of Washington. The iron plates are from 1 inch to 3% inch thick, riveted in boiler style; spar deck is iron; compressed engine, high pressure cylinder, 423/; low pressure, 78; stroke, 54; carries 80 fbs. steam; has 4 boilers, 10 feet long, 14.6 feet diameter; grate surface, 345 feet; Heresh wheel, 16.3 feet diameter, 25 feet pitch; elegant passenger accommodations for 150, and 5 bridal rooms; small tables, and meals a la carte. She hus steam reversing gear, drum or cylinder. This drum is of sheet iron, affixed to cast-iron rims or spiders, is 4 feet in diameter and is furnished with 16 tough wooden blades or beaters. It revolves in an opposite direction to the forward motion of the breaking rollers—that is, the upper periphery of the escutching drum moves in the direction of the feed end of the machine, thus bringing its beaters with a downward blow ing its beaters with a downward blow regarded as a model American steamship.

The Cincinnati Exposition has proven so city are taxed to their full capacity fo conveyance of passengers to and from the The machinery and everything al the Exposition buildings is progressing harnate working contact with cogs on the concave rim of a surrounding gearing, and a system of crossed and open belts."

"biggest" show that Cincinnati has ever had. All kinds of business is very lively; manufacturers full of orders and things generally are "booming." There is exhibited at this Exposition a greater dis

Cutlery.

NN & LAUTER.



PEN AND POCKET CUTLERY, Solid Steel Scissors, Shears, Razors, &c.

ELECTRIC RAZORS,"

And the "BLECTRIC SHEARS." Nickel Plated Agents for the BENGAL RAZORS.

AMERICAN TABLE CUTLERY, BUTCHER KNIVES, &c.
91 Chambers and 73 Reads Sts., N. Y.
423 N. Fifth St., ST. LOUIS, Mo.

MERIDEN CUTLERY COMPANY. THE "PATENT IVORY" HANDLE TABLE KNIFE.

Tts oldest manufacturers of Table Cutlery in America. Exclusive makers of the CELLULOID HANDLE for Table Cutlery. A most beautiful and perfect substitute for Ivory. Also makers of all kinds of TABLE, BUTCHER AND HUNTING KNIVES. Illustrated catalogues with prices sent to the trade on application.





Manufacturer of Pen and Pocket Cuttery, Pepperell, Mass.
My Blades are forged by hand from the best Cast Steel, and warrantd. To me was awarded the Gold Medal of the Conn. State Agricultu
Office in New York with E. P. Walpple, see Chambers St.

Cutlery.

ALFRED H. HILDICK. 12 Warren St., N. Y., mporter of CHAINS, ANVILS, VISES, &c.

Agency of HILL BROTHERS & CO., WALSALL, ENGLAND GENERAL HARDWARE MERCHANTS,

BALL'S PAT. SOLID STEEL SHEEP SHEARS. These shears are unaurpassed for cheapness, dura bility and utility. They are made of one solid piece of steel from point to point, and cannot be broken in see either in the bow or at the junction of the shank and blade. Samples can be seen at above address, or sample loss furnished.



Joseph Rodgers & Sons

CELEBRATED CUTLERY. No. 82 Chambers Street, New York.

F. & W. CLATWORTHY, Agents. The demand for Joseph Rodgers & Sons productions having considerably increased, they have, in order to meet it, greatly extended their Manufacturing Premises and Steam power.

To distinguish Articles of Joseph Rodgers & Sons' Manufacture, please to see that they bes er Corporate Mark.



t morocco case.

MARX BROS.. Proprietors,

Cutlery.

McCOY & CO..

IMPORTERS OF

Hardware, Cutlery, &c.

SOLE AGENTS FOR THEILE & QUACK'S

CELEBRATED Pocket Knives and

Scissors.

A large stock of

Muzzle & Breech Loading English Guns.

132 DUANE ST.,

NEW YORK.



Young's Patent Folding Scissors. J. R. SPENCER & SON, Albion Steel Works, Sheffield,

MANUFACTURERS OF FILES

STEEL Table Knives, Razors, Shovels, &c., &c., of every description.

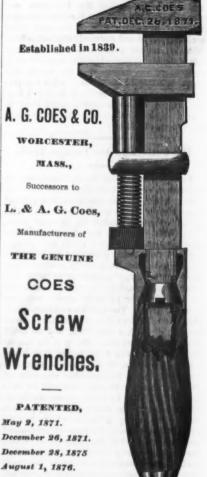
CORPORATE MARK



GEORGE W. BRUCE, 1 Platt St., New York,

Agent for CLEMENT & MAYNARD'S Trowels, Hoe hovels, Spades and Scoope. Their Trowels and Hoe ave entirely supplanted the English by their qualit ad cheapness, while all their goods compare advas ageously with those of other makers, and are largel

SUSCEPTIBLE 32 CHANGES



The back strain when the wrench is used is borne by the bar-not by the handle. The strongest Wrench made, and the only successful Re-enforced Bar.
None genuine unless stamped

A. G. COES & CO.,

Our Agents, GRAHAM & HAINES, 113 Chambers St., New York, carry a full line of our goods, and will be pleased to serve you at factory prices.

P. O. Box 3962. ESTABLISHED 1836.

Alfred Field & Co., COMMISSION MERCHANTS.

New York, Birmingham, Sheffield, Liverpool.

Guns and Pocket Cutlery, SPECIALTIES.

Headquarters for ELEYS BROS.' GOODS, WRIGHT'S ANVILS, WILSON'S BUTCHER KNIVES, &c. WOSTENHOLM'S POCKET CUTLERY AND RAZORS. BUTCHER'S FILES. TOOLS AND RAZORS. STUBS' FILES, WESTERN FILES,
GREAVES' SHEEP SHEARS,
CHESTERMAN'S TAPES,
GERMAN COIL AND HALTERS AND OTHER CHAINS.
BRADES' TROWELS AND HOES,
CANASTOTA KNIFE CO.'S POCKET KNIVES.

All sorts of Hardware and Merchandise for im port and export purchased on commission.

ROBERT SORBY & SONS,

SHEFFIELD,

Kangaroo Sheep Shears,



ALFRED FIELD & CO., 93 Chambers St., - NEW YORK, SOLE AGENTS.

Send for price list and terms



JAMES COMLY, 4739 Paul St., Frankford, Philadelphia, Pa., Manufacturers of

HARDWARE, NOVELTIES, Glass Cutters, &c.



CHARLES E. LITTLE,

59 Fulton St., New York, Agency for Barnes' Foot-Power Machinery.

Velocipede Seroll Saws, No. 1, \$12.00; No. \$10.00 No. 4 (new one), \$15.00; No. \$10.00; No.

HALL, ELTON Electro Plated Ware, German Silver and Britannia Spoons.



Factories, Wallingford. Conn.

Salesroom, 75 Chambers Street, New York.

Eight thousand sold the first year,

STUMP PULLER

M. E. Bunger & Co

Sand for

TUCKER & DORSEY, Mfrs., Indianapolis, Ind.

STANLEY RULE AND LEVEL CO., **Improved** Carpenters'

Tools.

FACTORIES, New Britain, Conn.

WAREROOMS, 29 Chambers St., New York.

84.00

No. 113, Improved Adjustable Circular Plane

NICHOLS' SELF-ACTING ACID PUMP.



The Old Way.

Absolute Safety! Perfect Ease! ime, Labor and Material saved by using the NICHOLS ACID PUMPS, to draw all kinds of acids from carboys. Every pump war-ranted. Send for new circular and price list. Manufactured only by

Acid Pump & Siphon Co

New London, Conn.





Manufacturers of Patent Scandinavian or Jai Locks. Brass Pad Locks for Railroads and Switches Also Patent Stationary R. R. Car Door Locks. Pat ent Plano and Sewing Machine Locks. Pat 141 to 145 Railroad Avenue, Newales, N. J. Illustrated Catalogue sent to the trade on appli-



AS ACCURATE AS CUT GEARING. AND MORE DURABLE IN USE.

Saves Time and Expensive Patterns, SHAFTING, PULLEYS AND HANGERS, A SPECIALTY,

LEFFEL TURBINE WATER WHEELS, STEAM ENGINES AND BOILERS, MIXERS FOR FERTILIZERS AND CHEMICALS. POOLE & HUNT Baltimore.



808 Frederick's 3-Horse Equalizer is a perfect Double Tree. a perfect Tripple Tree. a perfect 2-Horse etcher, a perfect attachment for either 2 or 3 horses anywhere. Just the thing retcher, a perfect 3-Horse Stretcher, a perfect attachment for either 2 or 3 horses anywhere. M. E. BUNGER & CO., Indianapolis, Ind., Manufacturers Wilson Bohannan,

Indianapolis, Ind.

Tacker's incomparable

STOVE TRUCK.

Send for Illustrated Catalogue.

BRASS PAD LOCKS taliroad Switches, Freight Cars, and the Ha Trade. All sizes, with Brass and Steel Ke and without chairs.

Patent Horizontal Rim Cylinder Night Latch.

elf-adjusting to doors of any thickness, with Patent Stop and Drawer Back Knob PASSENGER CAR LOCKS, Bronzed, Nickel-Plated and Japanned. Catalogues and Samples sent upon application.

WM. ROGERS & SON,

Cutlery and Silver Plated Table Ware.

Trade Marks:

On Spoons...... & WM. ROGERS & SON, AA, Established in 1865.





On Hollow Ware.









Regent

OUR GOODS ARE PLATED 20 PER CENT. ABOVE STANDARD PLATE.

Address all communications to

WILLIAM ROCERS & SON,

WM. H. WATROUS, President.

GOODELL COMPANY'S TABLE CUTLERY.



This is the original Solid Hot Water Proof Handle. Unequalled in Strength, unapproached in style, unexcelled in finish. We have just got out some new and elegant styles of very cheap goods, as cheap as the cheapest, and better and stronger than the best of other manufacturers. The public patronage is respectfully solicited.

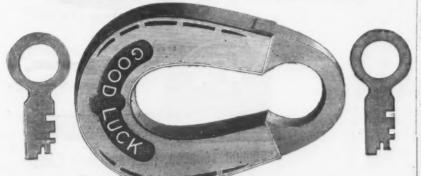
GOODELL COMPANY, Antrim, N. H.,

Sole Manufacturers.



FORKS, SPOONS, Etc., WALLACE BROTHERS, Wallingford, Conn.

"HORSE SHOE PADLOCKS."



Made by FERNALD & SISE, New York.

COBB & DREW,

Plymouth, Mass. Manufacturers of Copper, Brass, and Iron Rivets: Common and Swedes Iron, Leathered, Carpet, Lace and Giant Tacks; Finishing, Hungarian, Trunk Zost and Cigar Box Nalls, &c. Rivets made to Order.

NEW YORK AGENCY George C. Grundy.

HARDWARE, 165 Greenwich Street, Agents for the Philadelphia Star Carriage and Tire Bolts.

INEN HOSE

izes, r½ inch 20¢, ; 2 inch 25¢, ; 2½ inch 29¢ foot, subject to large discount. or Price Lists of all sizes of Plain and Rubber ed Hose, address,

EUREKA FIRE HOSE CO., 13 Barclay Street, New York.

Reliable, Substantial, Durable, Practical, Simple and Efficient;

"PATENT SCREW WINDOW BALANCE."



As Applied.

ROBERT B. HUGUNIN.

Sole Maker and Patentee "Screw Balance," Wethersfield, Ct.

See New York Wholesale Prices, this paper, for prices to the trade and discounts. See New York Wholesale Frices, this paper, for prices to the trade and discounts.

INFRINGEMENTS,—To whom it may concern;—As the inventor, patentee and solely authorize maker of the above goods under the mentioned U. S. Patents covering the combined inventions contituting the Screw Window Balance, and all other similar goods using these combined improvements bein afringements of the said combined inventions, patented as before stated, all dealers, users, makers an analiters of such, are hereby notified that they will be held accountable, under the U. S. laws, protectin aventions, for damages. Very respectfully,

Wethersfield, Conn., April 30, 1870.

Steam and Frost prevented on Show Windows.



REVOLVING VENTILATORS

For everything (and every size), from a hat or cap to an exhibition building.

Protective Ventilators avoid drafts, exclude dust, dampness, malaria and germs of d by hospitals, schools, institutions, &c.; applied to any window or room.

Prof. A. L. Loosis, M. D., University of City of New York, writes as follows:

"From my personal experience and that of my patients who have used your Ventilator six months, I am convinced that your method of removing dust, impurities and dampness f phere is the best which has as yet been proposed. By it the air in an apartment can be considered in the convention of the con

The "Economy" Metallic Weather Strip

. Any one can adjust it, and when in position thoroughly excludes cold.

Put up in Coils of 50 feet. It is cheap, durable and portable.



SOLD BY HARDWARE AND HOUSE FURNISHING TRADES, AND BY

BRACHER VENTILATOR CO., No. 3 Park Row, New York. CHAMBERLAIN & KISSAM, Agts., No. 12 Murray St., New York.

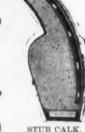


MALLEABLE OX SHOES 2

Steel Converted Toe Calk.

FIVE SIZES.
A perfect, finished Shoe, ready to apply without Fitting. WILL OUTWEAR ANY OTHER SHOE MADE.

VES. WOODRUFF & CO., Mount Carmel, Conn.,



SHARP CALK. Superior Malleable Iron

IVES' PATENT BURGLAR PROOF DOOR BOLT.

wholly by bor

against burglars

MY NEW DOOR BOLT, in Nickel plate or Bronze, is designed for both out and inside doors, your sleeping or bath-room, throughout a botel, or on any door that may need inside Botts. It will take the place of the more common Flush or Barrel Bolt, being as easy to apply, leaving your door more secure and of better finish, and besides it fills the place of many a more expensive Bolt that operates no better or any more GRAHAM & HAINES, 113 Chambers St., New York. A. T. YOUNG, 36 Pearl street, Boston; LATHAM & MATTHEWS, N. E. cor. Sixth and Comment treets, Philadelphia, Pa.; POTTER & COPELAND, 21 E. Congress st., Detrot, Mich. Price list s in application. HOBART B. IVES, Sole Manufacturer, Fair Haven, Cong.



TRADE MARK.

"OLDEST" AND "LARGEST"

And only "Incorporated"

COMPANY

FAIRBANKS SCALE COMPANY,

WHOLESALE AGENTS.

Send for Price List and Circular.

ENTERPRISE MANUFACTURING COMPANY of Pa.,

Patented Hardware Manufacturers and Iron Founders,

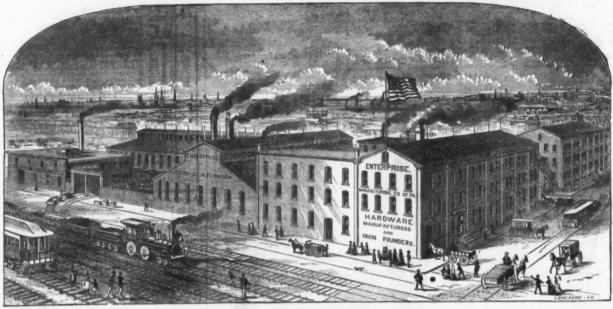
Third and Dauphin Streets, Philadelphia.

New York Branch House with HORACE DURRIE & CO., 97 Chambers Street, New York.



Showing Mill Closed .

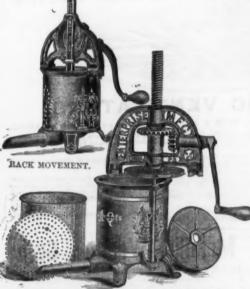
Twenty Size



VIEW OF WORKS.



From \$2 to \$100.



Combined Sausage Stuffer, Fruit, Lard and Jelly Press.



Double-Pointed Smoothing, Polishing and Girls' Toy Irons.



Champion Dried Beef Shaver, Potato, Fruit and Vegetable Slicer. PRICE, \$7.50.

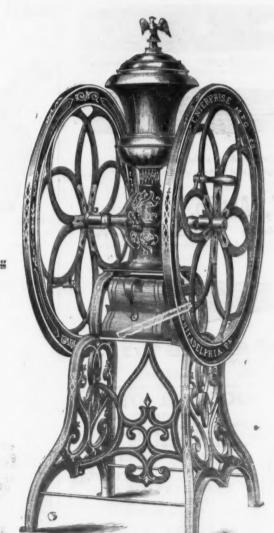


Enterprise Self-Weighing Cheese Knife and Safe.

WEIGHS

CORRECTLY LABOR SAVING

Without Cover \$10.00 With Cover...... 13.00



No. 20 Mill.





. Enterprise Tincture

Press. SUPERIOR

TO ANY IN THE MARKET.







Champion Tobacco, Root and Herb Cutter. No. 1, \$2; No. 2, \$3.

THREE SIZES, From \$1.50 to \$3. SALE BY THE HARDWARE TRADE. FOR

ESTABLISHED 1849.

INCORPORATED 1876.

BRADSTREET'S

IMPROVED

Mercantile Agency.

PRINCIPAL OFFICE:

279, 281 and 283 Broadway, New York.

THE BRADSTREET COMPANY, Proprietors.

Branch Offices in all Principal Cities of the United States and

Canada, and London, England; also a Continental

Correspondence.

One Organization!

One Management!

One Interest!

VOLUMES ISSUED QUARTERLY.

We shall issue the Forty-Seventh Volume of our Reports

during the first weeks of October.

Sheets of Changes Semi-Weekly.

CONSTANT REVISIONS AND PROMPT NOTIFICATION TO SUBSCRIBERS.

Forty-seventh Volume of our Reports during the first weeks of October. The structure is about 125 feet high, and hanging midway in the air We are confident that no previous issue of our work has been so complete, are the eight rooms designed for the occucomprehensive and reliable as this—for we have spared neither expense pancy of the keeper. These will be finished in wood, aside from which the entire worknor care in perfecting the reports, and have also revised and perfected the many improvements which have been so fully appreciated by our patrons.

States, which we print under the proper headings. This feature will be appreciated by all who have occasion to grant credits covering different ington. The heavier ironwork for the

sections of the country.

We have also introduced under each town or village head concise information, showing its actual or relative position-whether on a railroad, steamboat, or stage route-the population, and whether a telegraph, express, or money-order office. As a Shipping Guide this will be almost invaluable, it being more comprehensive, and we intend that it shall be more reliable, than any published otherwise. We have also tabulated the Banks and Bankers throughout the United States and Canada, giving their capital, &c., as well as their New York correspondent, which we shall publish as an appendix to each volume, retaining, however, the names as they appear at present under their respective town or city in the regu-

Owning and directing our whole business, from London to San Francisco, as from Montreal to New Orleans, we are able to control it in all its branches, so that it is not possible for the interest of our patrons to suffer from conflict with local managers.

Relying solely on the merits of our work, we respectfully solicit an examination of our system, with the assurance of our ability to substantiate all we claim, and with the knowledge that it is worthy of your earnest

CHARLES F. CLARK, President.

INDUSTRIAL ITEMS.

At the annual meeting of the Auburn Foundry and Manufacturing Company, of Auburn, the following officers were elected: President, J. T. Randall; Treasurer, W. H. Wheeler; Secretary, N. M. Neal; Directors, J. T. Randall, W. H. Wheeler, S. P. Miller, G. W. Williams, H. Gaff.

RHODE ISLAND.

James Hill, at Providence, has recently en-larged his tin works to meet the increasing demand for his patent roving cans and spin-ning frame cylinders. Mr. Hill has orders ning frame cylinders. Mr. Hill has orders for cans and cylinders to keep him occupied until the 1st of February next, and has made during the past 18 months 12,000 of his patent roving cans, which have gone to nearly every State in the Union, and one lot to a new factory in Brazil. Mr. Hill also supplies his improved tin cylinders to five machine shops in his vicinity.

The Cheshire Iron Furnace will go out of blast on the 1st of October, and will be idle during the winter. The Richmond Iron Company's Furnace is running and will continue in the continue of Company's Furnace is running and will continue in blast. The Dusenville Furnace will get in small stock and start during the coming summer. The Pomeroy Anthracite Furnace at West Stockbridge is getting ready to go in blast Jan. I. The address of the Richmond Iron Works will be hereafter Richmond Furnace, instead of West Stockbridge, as heretofore. The government has established a post-office at the works of the iron company.

established a post-onice at the works of the iron company.

Messrs. Page, Harding & Co., of Berkshire, have rebuilt one furnace in their glass works and have modeled it after the most improved Belgian style. They have converted the ribbed plate and cathedral converted the ribbed plate and cathedral furnace into a window-glass furnace, to be run during the busy season, and are also rebuilding another Belgian furnace. This firm will soon have three out of five furnaces running. Messrs. Page, Harding & Co. are running largely on their specialties, and are making some 60 different twists of cathedral glass, which is largely coming into use for household work. This firm make as specialties in glass, rough and ribbed plate, rolled cathedral of various tints, ground and bent, dol thick enameled, plain and obscured.

scured.

The Dwight Manufacturing Company, of Chicopee Falls, are setting two boilers, built by Hawkins & Co., of Springfield, with the Jarvis Furnace.

Jarvis Furnace.

The business of the E. Stebbins Manufacturing Company, of Springfield, brass founders and finishers, is good. Their new "Brightwood" bibb is selling well.

The Pratt & Whitney Company, of Hartford, are running full with a force of 350 hands, 100 of whom have been added within the past six months. They produce a regular line of machinists' tools and make a specialty of cutters for the teeth of gear wheels. These cutters, which are something new in this line, are manufactured by machinery and are perfect in form. They meet with ready sale, some having even been supplied to machine tool makers. The Gardner gun, manufactured by this concern, has recently been tested in Washington with very satisfactory results. The sales of the company during the past summer have been more than double the sales in the same time in 1878 in machinery generally; also in taps and dies. In the latter article the company make a specialty of the Sellers (or United States stendard) thread, which has recently been adopted by the machine-bolt manufacturers of the country, by many manufacturers of saddlery hardware, as well as master mechanics and master carbuilders' associations.

NEW JERSEY.

The Phoenix Iron Company, of Trenton, have been running day and night since Jan-The Pratt & Whitney Company, of Hart-

The Phœnix Iron Company, of Trenton, have been running day and night since January, the great work in hand being the iron lighthouse destined for the American Shoals, Florida, which has passed the final inspec-Florida, which has passed the final inspection and has been pronounced perfect in arket quotations appear had gone to press, we received the revised prices which will be shorter time than any of the kind ever before built. It is now being taken down and prepared for shipment. This is a duplicate of one standing at Fowey Rocks, on the Florida coast, and the two are magnificent monuments. The structure is about 125 feet high and hanging midway in the air feet high and hanging midway in the air.

Flat Bar. The same company manship is of metal. y improvements which have been so fully appreciated by our patrons.

We have compiled an abstract of the collection laws of the several Office and Custom House, and hold a contract for furnishing the ironwork for the re-construction of the Patent Office at Washington. The heavier ironwork for the frame in which the Egyptian obelisk is to be brought to this country is also in process here, and the lighter work, termed the "cradle," is making at the great works of John A. Roebling's Sons. This company have also added to their contracts for the United States government the ironwork for the Washington pronument. he Washington monument.

Owing to the great improvement in the iron trade, Cooper & Hewitt have decided to put their furnace at Ringwood in blast, after five or six years of idleness. A force of 60 or 70 men are at work preparing the furnace. This is the smallest of the two Ringwood furnaces, and will use about 180 to 200 tons of fuel (probably 30 to 50 per cent. coke) per week. The Ringwood Fur-nace was formerly run with charcoal; this is to be an anthracite furnace, supplied with coal over the Delaware, Lackawanna and Western and the Montelair railways.

PENNSYLVANIA. The report that the Coleraine Iron Works, of Redington, have rented from Mr. Wm. Maddern, of Allentown, his ore mine in that

Maddern, of Allentown, his ore mine in that city, is denied by the iron company.

Messrs. Bolckow, Vaughan & Co., iron manufacturers, of Easton, England, write Mr. W. R. Jones, of the Edgar Thomson Steel Works, that they are perfectly satisfied with the results of the tests they have made of Mr. Jones' new method of compression, and want to purchase the right to use it in their works, which right Mr. Jones is ready to sell.

The zinc mill of the Lehigh Zinc Works South Bethlehem, has started up with a ful complement of hands, after a stoppage

two years.

The Donegal Furnace, near Marietta, after being out of blast for several months, was successfully blown in September 16, and is working satisfactorily. This furnace was built in 1847, and, except when out of blast for repairs, ran continuously up to 1874. During the past five years it has been in blast a portion of the time only.

The Coleman Anthracite, Donaghmore Bird Coleman and North Cornwall furnaces are all in blast. One of these furnaces has been in constant blast for nearly seven years. The Bird Coleman Furnace No. 2 is years. The Bird Coleman Furnace No. 2 is now in course of erection.

now in course of erection.

The Reading Eagle says: The Reading Pipe Mill has been in receipt of large orders recently at advanced rates, and is very busy. All the sbops of the Reading Iron Co. are working on full time.

Last winter Mr. Robert Allison, of the Franklin Iron Works, Port Carbon, sold a large duplex compressor to the Straitsville Central Mining Co., of Columbus, Ohio, to run a number of Lechner coal cutting machines. This was the first permanent plant chines. This was the first permanent plant put down for this purpose in Ohio, and was a complete success. The cost of cutting coal has been reduced over one-half by the introduction of this machine. Mr. Allison gives it as his opinion that all the coal in Ohio will exentually be mixed by mechanism. Sives it as his opinion that all the coal in Ohio will eventually be mined by machinery. Some of the foremost coal men of that section have foreseen the success of that kind of mining, and have ordered plants. The above works are full of orders on these air compressors, which are considered the best of the kind for the purpose named. best of the kind for the purpose named.

Proposals for Iron Beams,—Major D. W. Flagler will receive proposals until Oct. 18 for the following quantities and kinds of iron beams, to be delivered at the Rock Island Arsenal, Ill.: 220,000 lbs. 15-inch wrought-iron I beams, 200 lbs. per yard; 320,000 lbs. 12-inch wrought-iron I beams, 320,000 lbs. 12-inch wrought-iron I beams, 125 lbs. per yard; 200,000 lbs. 12-inch wrough-iron I beams, 170 lbs. per yard; 216,000 lbs. 0-inch wrought-iron I beams, 85 lbs. per yard; 90,000 lbs. 7-inch wrought-iron deck beams, 58 lbs. per yard; 126,000 lbs. 4-inch wrought-iron I beams, 30 lbs. per yard; 21,000 lbs. T-irons and angle brackets, 3½ x 3½, 30 lbs. per yard. The above quantities are approximate. About one-fourth of the beams must be delivered with-in 60 days after date of contract, and the remainder before March 1, 1880. All of these beams must be of first quality, straight, out of wind, and free from flaws, and a out of wind, and free from flaws, and a portion of them must be cut to exact lengths.

Mr. Wm. H. Webb, delegate for the New York Chamber of Commerce to the Paris

PITTSBURGH.

After the page on which our Pittsburgh market quotations appear had gone to press, we received the revised prices which will be

TRAMS.—Note or acceptance at 50 days, with current rate of exchange on New York, or a discount of 2 per cent. for cash, if remitted within 20 days from date of invoice.
Flat Bar. 1\(\) \(\)
3¼ to 6 by ¼ and 5·16 lineh
3 to 6 by \$6 to 3:16
54 and 9-16, Nos. 13 to 16
Rounds and Squares.
74 to 114
Half Oval and Half Round, 34 to 14 inch
Inree Shoe. ## to 11/2 by 5-16 to 1/2 inch
Sheet Iron. Charcoal. Juniata. No. 15 to 14. 3.86. 5.50. 6.36. No. 18 to 21. 4.90. 5.50. 6.80. No. 22 to 24. 4.50. 6.90. 7.00. Ni. 2 5 & 26. 4.70. 6.20. 7.28. No. 27. 4.90. 6.40. 7.44.

=	
f	3-16 to ½ in. thick. Tank Iron. 3-8c 1'low Stabs
	134 by 54 by 5-163-5e 1 by 94 by 5-164-0e
,	246, 3, 395 and 1 Inch
	8 lbs. to the yard34c 20 lbs. to the yard33c 28 33c 28 33c 28 33c 28 33c 28 33c
	Cast Chairs and Splice Joints for 12, 16 and 20 lb. 34l, 46c each 128 and 40 lb. 121, 55c ca. h. 34l, 46c each 28 and 40 lb. 121, 55c ca. h. 34l, 46c each 28 and 36 bp. 42 lb. 121 db. 121 db. 122 db
	2-3 by 160 d. 4-00 124 to 2 by 14 to 3 f inch. 3-76 124 by 38 and 7-16 inch. 3-76 124 by 38, 7-16 and 34 inch. 4-00
	Juniata Nail Rods 7.00 Norway 8,50 Guard Iron, 76x34x36, and 76x36x36, 4,50 94x96x9-16, and 76x36x34, 4,70 Drag Bars 78 Oropper Bars 430 Cylinder and Landside Iron 3,70 Plow Beam Iron 3,70
	ist quality (A)iic 2d quality (B)
	Nos. 14 to 20
-	Roofing from, Corrugated or Crimped, Galvanized Common, Black. No. 20
	Carnegie Bros. & Co.'s list.
	Solid Wrought Iron Beams, 3 to 10 g in. x 30 ft. 2 h 31/c
-	Solid Wrought Iron Beams, 3 to 10\(\frac{1}{2}\) in x3 oft. \(\beta\) b 3\(\delta\) \(\frac{1}{2}\) in by 3\(\frac{1}{2}\) in by 3\(\frac{1}\) in by 3\(\frac{1}{2}\) in by 3\(\frac{1}
	1 in. x1 in. to 5 in. x3 in 1 1 3140
	### Angle From. ### B 3.10 Equal Sided, ixi to 13;xiig in.
	Sash Iron, 14x 14x3-10. "3560 Miscellaneous Shares, various shapes 10 h, 3,1 to 4,00 Special prices for large lots. Nails.
	8d and 9d 3.6c 3d 4.90 6d and 7d 3.90 ad 6.15
	78
	t m. 8.40 2 in. 5.15 154 " 7.40 256 " 4.00 175 " 5.05 3 " 4.05 Casing and Bost. 6d 4.65 rod to 3od. 4.15 4d 4.19 8d 4.00 3d 5.00
	4d
	% in
	Stating.
	Square, Flat and Octopon Tool Steel. Square, Flat and Octopon Tool Steel. 546 and 254 to 3 in. 120 7-32 and 454 5 in. 143 54 and 354 to 4 in. 140 5-32 in. 150 5-32 in. 150
	5-16 and 256 to 3 in
	Machinery Steel-Round.
	5-10 and 256 to 3 in80 3-16 and 356 to 4 in90 Cast Spring Steel. 156 to 3x5-32 to 116 in 70 1 to 4x15 to 56 in90 3-16 and 456 to 5 in180 1-52 in91 1-54 to 3x5-32 to 116 in 80
	Solid Cast Steel Plow, 4 to 16 by 3-16 to 36 in
	Reaper and Scythe
	Hoo, C. 8
	Th. 11
	Furnace, Floor and Straightening Plates
	Pulleys up to 30 inches
	6 to 7 in. diam., 7 to 20 in. long. 5 c 8 to 15 in. 8 to 40 in. 9 c 0 is 10 to 40 in. 9 c 0 in. 9
	Horse Shoes, Etc.—In 100 keg lots.
	Huse 4.50 3.75 Steel Tee Calks. per 7%c lb. Thistlewood & Co.'s Self-Sharpening Horse Shoes. per keg, 85.25 Thistlewood & Co.'s Self-Sharpening Snow
ı	Toe Calks
	White Lead in Oil, Assorted Kogs (all sizes). 7 kg 25 B 7 calls, too B Cases . 5 c C A C C C C C C C C C C C C C C C C C
	Orange Mineral 68-5c; 65 c Litharge 55c; 65 c Litharge 65c; 65 c White Lead. less than 500 lbs. 75c; 65 c White Lead in Oil in lots of less than 500 lbs. 5c ad-
	White Lead in Oil in lots of less than so ibs., See additional. Terms: Note at sixty days, or if paid within 15 days from date of invoice, a discount of 13g per cent, will be allowed, but not otherwise.
	be allowed, but not otherwise. Window Glass. Fer Box of 50 Feet.—Discount 70 %.
1	Single Strength.
ĺ	Size. AA. A. B. C.

Special Notices.

PROBATE SALE

OF VALUABLE

Factory, Machinery, &c.,

AT SOUTH NORWALK, CONN.

Pursuant to an order of the Court of Probate for the District of Norwalk, will be sold at public

for the District of Norwalk, will be sold at public for the District of Norwalk, will be sold at public auction on WEDNESDAY, the 15th day of October, 1879.

At 11 o'clock forenoon (unless previously disposed of at private sale), the valuable real estate lately belonging to the Norwalk Iron Works Company, and also all the Tools and Machinery, Boilers and Engines, Shafting and Belting, Foundry, Furnace and Cranes, all in running order and suitable for a first-class machine shop of large capacity; also Patents and Patterns of Steam Engines and Pumpa. Said real estate adjoins the track of the N. Y., N. H. & H. R. R. Co., and has a convenient dock on Norwalk Harbor. The subscriber has been specially authorized by said court to make said sale.

Sale to take place on the premises. Terms and conditions made known at time of sale.

TALLMADGE BAKER.

SOUTH NORWALK, Sept. 4, 1879.

WE WILL TRADE LAND, Improved or wild, for

HARDWARE, STOVES OR NAILS. Land is near Topeka.

THOMPSON BROS. Topeka, Kansas

Bissell & Welles, Wholesale Hardware Auctioneers,

83 Chambers and 65 Reade Sts., N. Y. Sales held weekly for the trade. Consignments olicited. We refer to the leading Manufacturers and importers.

FOR SALE. Stove and Hardware stock, fixtures and business in one of the best towns on the Hudson River. From \$4000 to \$5000 required. Satisfactory rea-sons for selling. A rare chance.

HARDWARE,

Box 80, Office of The Iron Age, 83 Rende st., New Yerk

TO BUY OR SELL

MACHINERY, ADDRESS

RICHARDS & DOLE, Springfield, Mass.

Machinists and dealers in New and Second-hand Machinery, Shatting, &c. Correspondence so-licited. Machinery wanted.

Established Business.

Wanted to purchase, patents on staple articles Hardware, or will purchase established busines

P. O. BOX No. 37,

New Haven, Conn FOR SALE.

First-Class Retail Hardware Store

On one of the principal streets. About \$2000 New stock. Address.

J. G. BRENNER, SON & CO. 21 N. Fifth st., Philadelphia.

SITUATION WANTED

by a first-class double entry bookkeeper and correspondent. Moderate salary expected. The advertiser has had many years' factory experience. Address

WM. HARNETT,

234 East 29th St., New York.

A N EXPERIENCED Mechanical Draughtsman accustomed to heavy rolling mill work, can find employment for a few months by addressing A B.,

Office of The Iron Age, 83 Reade St., New York.

nace, including 120 acres good farming land, situ-ated about 3 mlue from Reading and 1 mile to W. N. R. R. Ore convenient and wood in abundance, having ample facilities for shioping product to market. The above Furnace having the reputa-tion of making one of the best irons in the market when in blast. Address, GEO. SHALTER, Reading, Fa.

WANTED.

Employment here or elsewhere, in any useful capacity, by a man of ability and approved character, experienced in manufacturing and mercantile business. Is a capable office and business manager, cashier, accountant, correspondent and indoor salesman. Has been connected with the Iron and Hardware trade. Satisfactory reference. Address,

Office of The Iron Age, 83 Reade St., New York.

WANTED.

A Good Hardware Store.

Address, with particulars and terms,

Lock Box 34, Lebanon, Pa.

A TRAVELING SALESMAN of 10 years' experience in the Hardware and Cutlery trade will be open for an engagement after Oct. 1. A1 references. Address, with full name, JACK CHAIN.

Office of The Iron Age, 83 Reade st., New York.

WANTED.

A second-hand roco-lb. steam hammer in good working order. Address A. B., Office of *The Iron Age*, 83 Reade St., New York.

WANTED,—A SITUATION AS SUPERIN-tendent or manager, by a practical man who thoroughly understands the manufacture of iron in all its details, including merchant bar, hoops, sheets, plate and tank iron, &c. Satisfac-tory references. Address "HON,?" Office of The Iron Age, 83 Reade St., N. Y.

JUST PUBLISHED-SENT FREE. Complete History of Wall Street Finance, containing value bie information for investors. Address BAXTER & Co., Publishers, 17 Wall street, New York.

Special Notices.

EXECUTORS' SALE OF AN

Anthracite Blast Furnace

THURSDAY, October 16, 1879,

THURSDAY, October 16, 1879,
At 2 o'clock P. M.,
all that certain Anthracite Blast Furnace, located in the Borough of Glendon, about two miles from Easton. The tract of land contains about 12 acres, and lies between the Lehigh Canal and Lehigh River, just below the Chain Dam, adjoining Glendon Iron Company's furnaces. The furnace erected thereon is a sheet iron casing stack, 14½ feet bosh by 70 feet high, with closed top; I. P. Morris & Co.'s low pressure condensing ongine, 8 boilers, 2 Kent's hot-blast ovens, casting house, engine house, steam hoist, &c. Also 11 good tenement houses, large store, two stables and a blackmith shop. The furnace buildings are of brick and stone and put up in the best manner, with all the modern improvements. The works were built in 1871, and are in good order and nearly ready to blow in. Stock can be supplied by boats on Lehigh and Morris Canals or Lehigh Valley Railroad. Hematite ores can be delivered to the furnace for \$2.65 per ton and limestone for 30 cents per ton.

The term's and conditions will be made known on day of sale by S. L. UHLER, E. I. HUNT, Sale positive to close up the estate. Executors.

Rolling Mill for Sale.

The Real Estate, Machinery, Fixtures and Tools of the PORTLAND ROLLING MILLS will be sold at public auction, without reserve, to the highest

TUESDAY, September 30, 1879,

At 3 o'clock P. M.

The property of the company consists of 60 acres of land on tidewater, in the town of Cape Elizabeth, Cumberland County, within ten minutes' drive of the city of Portland. Besides the mill buildings the company owns 55 tenements in ab buildings, one hall used for church purposes, two stores and a thoroughly well fitted office, with fire-proof vault and all modern improvements. All the buildings are in good repair.

The Mill contains one 10-inch train, and one 18-inch train, with all the machinery appertaining to the manufacture of rails and bar iron. Its capacity is 14,000 tens of iron rails or 6000 tons of merchant iron per year.

The property is provided with a thoroughly built wharf, at which vessels of 800 tons capacity can lie at low water, and is directly connected by rail with all the railroads centering at Portland.

The mill is now in active operation, but possession will be given about the 13th of October, 1879.

PHILIP HENRY BROWN, President,

Portland, Maine. At 3 o'clock P. M.

Special Notice.

Hardware Manufacturers Exchange,

43 Chambers Street, New York.

The undersigned desires to inform all Manufac-The undersigned desires to inform all Manufacturers of Hardware throughout the United States that he has fitted up rooms, centrally located, well lighted, &c., running through from Chambers to Reade street, for the exhibition of manufactured goods in all lines of hardware. Any manufacturer can at a small annual cost exhibit his wares to actual buyers throughout the year, and all visitors can examine them free.

The advantages to both manufacturers and buyers are too apparent to need any explanation. For further particulars and application for space address

W. G. FULTON, Manager.

W. G. FULTON, Manager.

Hardware Patterns for Sale.

Embracing a full line of Hat and Coat Hooks, Pullies, Grindstone Fixtures, Turnbuckles, Boits, Weil Wheels, Thumb Latches, Casters, Brackets, Drawer Pulls, Sash Fasteners, Sash Lifts, Shutter Bars, Cupboard Catches, Latches and Turns, Flush Boits, Stove Door Handles, &c. These patterns are all in complete order, ready for immediate use, and cover the entire line of general Hardware lately manufactured by us. Also the Hardware patterns and patents purchased from the Judd Manufacturing Company a short time since. We have woodcuts and price lists of the various articles. Having leased our works for a series of years, we offer these patterns in the whole or in part, at low rates on easy terms of payment. Under the terms of our lease they can only be sold for use west of the Allegheny Mountains. For terms and further information apply to se west of the Allegnery and to and further information apply to KEYSTONE HARDWAKE MFG. CO... Reading. Pa.

Home Industry.

During the two weeks ending Saturday the 20th inst., the Fairbanks Scale Co. received orders for The HARDWARE MEN.—A practical Plumber and business man desires to meet a Hardware man who thinks of adding plumbing to his present business. Highest reference. City or country. Carried on business for ten years.

PLUMBER, Office of The Iron Age, 83 Reade Street, N. Y. TOR SALE OR TO RENT.—The valuable property known as Mount Penn Charcoal Furnace, including 120 acres good farming land, sign.

VI., Caledonian, Sept. 26.

LOUISVILLE ROLLING MILL

For Sale or Lease.

The Louisville Rolling Mill is for sale or lease on reasonable terms. It contains small and bar mill, sheet mill, 27 puddling furnaces and 4 heating furnaces. It could be started up in one month's time at small cost for repairs, and is an excellent opening for capitalists desiring to go into the manufacture of iron, as the old reputation of the mill for quality of product still draws orders to this point.

B. DU PONT,
Pres't Louisville Rolling Mill Co.,
Louisville, Ky.

For Rent. MARIETTA FURNACES.

Situated on Penna, R. R. and Penna. Canal, in Address H. M. W., Office of The Iron Age, 220 S. 4th St., Phila., Pa.

FOR SALE.

A lucrative and long-established Foundry, Smelting and Metal Business for sale on easy terms. The products of manufacture are well known as the best in the market. The present proprietor will remain a short time to instruct the buyer. Orly a small amount of money wanted. Balance secured. Address,

Office of The Iron Age, 220 S. 4th st., Philadelphia.

WANTED—The exclusive services of an engineer, or otherwise, of sterling integrity, energy and sobriety, who has large experience in the construction and management of coke furnaces. Undoubted references required.

Address P. O. Box 3s, Philadelphia, Pa.

FOR SALE OR RENT.-The Pequest furnace and 200 acres of ore and limestone : land can be sold or leased at a reasonable E. DALLETT HEMPHILL,

Lock Box 26, Allentown, Pa.

Special Notices.

Second-Hand& New Tools FOR SALE.

October List.

The Tools in the following list are all of Wood, Light & Co.'s make, have been used, but are all in good order and will be sold very

Five Engine Lathes, 25 in, swing 6 ft. bed.

Five Engine Lathes, 20 in, swing 7% ft. bed.

Five Engine Lathes, 20 in, swing 8 ft. bed.

One Engine Lathe, 21 in, swing 6 ft. bed.

One Engine Lathe, 21 in, swing 6 ft. bed.

Two Upright Drills, 27 in, swing, not geared.

One Upright Drill, 22 in, swing, not geared.

Two Planers, 32 in, x 30 in, x 8 ft.

One Planer, 37 in, x 36 in, x 4 ft.

One Planer, 72 in, x 66 in, x 4 ft.

One Shaping Machine, 12 in, stroke.

Four Bolt Cutters, various sizes.

One Horizontal Boring Lathe.

The following are all new tools to be

The following are all new tools to be sold very low, and are all Wood, Lighte & Co.'s

One Shaping Machine, 14 in, stroke. Seven No. 2 Bolt Cutters. One No. 1 Bolt Cutter, with centers Five No. 2 Bolt Cutters. with center.

Also the following miscellaneous Tools:

Also the following miscellaneous Tools:
One Portable Engine, 6 in, cylinder.
One "Pond" Index Milling Machine.
Two Chase Patent Pipe Cutting Machines.
Two Engine Lathes, 12 in, swing, 6 ft. bed. Two
Engine Lathes, 22 in, swing, 8 ft. bed. One Engine Lathes, 25 in, swing, 6 ft. bed. Three Engine
Lathes, 26 in, swing, 8 ft. bed. Six Turning Lathes,
14 in, swing, 4½ ft. bed. Three 4-spindle Drills.
One Gear Cutter. One new "Hardaway" Bolt
Heading Machine, to head up to ½ in, bolts. One
mew "Hardaway" Bolt Heading Machine to head
up to 1½ in, bolts. A lot of Saw Tables and
Wood Working Machinery.
Please specify which of the above tools you want
and we will forward all particulars.

A Woodruff & Beach Beam Engine,

Low pressure, 42-inch cylinder, 84 inch stroke, with fly-wheel pulley 20 feet diameter, 36 inch face, and

Four Tubular Boilers. so inches in diameter, so feet long, and all connections practically as good as new. For sale by

The Geo. Place Machinery Agency, 121 Chambers and 103 Reade St.,

NEW YORK.

PARK BENJAMIN'S SCIENTIFIC EXPERT OFFICE,

37 Park Row, New York.

Examines and reports on the novelty of invenions.

Furnishes recipes and information on all indus-rial processes. Prepares drawings and engravings of machinery. Tests, designs, constructs and selects machinery. Address. G. H. BENJAMIN,

FOR SALE. A valuable property in the State of Wisconsin, free from all incumbrances, embracing an inexhaustible deposit of Iron Ore and about 900 acres of land, of which about 900 acres are covered with a heavy growth of large oaks and other hardwood timber. The ore is rich and free from even a trace of rhosphorus. The facilities are unusually favorable for the manufacture of a superior quality of Charcoal Iron, and as cheap, if not cheaper, than can be manufactured elsewhere in the United States.

It is on the line of one of the leading railroads of the State, and is accessible to all Mississippi ports and the lakes.

The veins or mines are to a certain extent developed, and had been successfully worked for some time.

time.

The greater part of the land would be well fitted for farming purposes, as the ground is very fertile, and the price asked for it will not exceed that asked for common farming land. Property in New York City or vicinity will be taken in exchange. change.

For information apply to or address the proprietor,

JULIUS W. HAAS,

Dubuque, Iowa. Or EDWARD MULLER,

Care BIGELOW & Co.. P. O. Box 135, Newark, N. J.

SALE OR LEASE. A MANUFACTURING ESTABLISHMENT IN SCRANTON, PA.

IN SCRANTON, PA.

On corner of two main streets, only one-quarter mile on level road from two railway stations. Size of lot 50 by 150 feet; main building, 30 by 100 feet; engine, 35-horse power. Buildings and machinery first-class and nearly new.

Underlaid and surrounded with coal, the cost of fuel for steam is merely nominal. Best forge coal \$1.50 per ton. With complete lines of shafting, &c., the premises can be easily and cheaply adapted to any light manufacturing business.

Former proprietor, after successfully manufacturing Axes and Edge Tools in the vicinity for 50 years, designed and built this shop at an expense of \$10.000 for the continuance of the business, but failed during the late depression.

Having neither time nor ability to run these works, I will sell very low on easy terms.

Address,

AMBROSE MULLEY, Providence, Lackawanna County, Pa.

Mining & Manufacturing **Property** For Sale or To Let.

A valuable property in New Jersey, at a railway station, consisting of rich Iron Mines, unex-

station, consisting of rich 1100 Miles, unex-celled Water Power, large Factory and Farm. Will sell all or part, or lease the Factory with Machinery, or the Mine. For particulars ap-ply to THOS. H. STOUT, 79 Cedar St., New York.

Wholesale Cutlery.

A favorable opportunity is offered to an active man, with a capital of at least \$25,000, to take the place of a retiring partner in a leading Cutlery business in one of the principal Western cities.

For particulars address H. W.,

P. O. Box 96, New York.

Special Notices.

SECOND-HAND Machinists' Tools.

20 ln. x 121/4 ft., screw cutting, &c. Hewes & Phillips.

One each No. 3 and No. Sharp. One Tapping Machine. Brown & Sharp. One to H. P. Baxter Engine. one 2-Spindle Profiling Machine. Pratt & Whitney Good as new.

E. P. BULLARD, 14 Dey st., New York JOHN E. SWAN & BROTHERS.

CLASCOW, SCOTLAND,

Exporters of all brands of

Scotch & English Pig Iron.

See advice from London. Old Iron Rails, Coals and Minerals.

Blast Furnace for Sale or to Lease. Situated on the Hudson. Size, 16x60, with first-class blowing machinery, ovens, tools, &c. The location for transportation of stock to the Fur-nace and iron to the market is most excellent. There is a fine dock and good appliances for hand-ling material. Iron can be made here very low, and at present prices at a good profit. PANCOAST & TARR, 28 Platt St., New York.

FOR SALE.

Hardware Stock and Fixtures in one of the best owns in Nebraska. Will be sold low for satisfacory reasons. About \$2500 required. A splendid

Address

HARDWARE. Box 21, Lincoln, Neb.

FOR SALE.

Rail or Bar Train complete, with rolls for rolling rails from 12 to 65 lbs., and also for all sizes of oar iron, flats, rounds and squares, in perfect conition, having been in use 10.

For terms, &c., apply to

J. M. BROWNSON,

Pittsburgh. dition, having been in use for a short time only,

P. O. Box 748, Pittsburgh, Pa.

WANTED.

Situation as Salesman, Business Manager or correspondent, by a gentleman who has been connected with a large rolling mill for many years, and has an extensive acquaintence with the merchants and consumers of iron throughout the country. Address: country. Address,

country. Address, SALESMAN, Office of The Iron Age, 77 4th ave., Pittsburgh, Pa HARDWARE STORE FOR SALE,

In Dover, N. H., to Close an Estate.

The old established Hardware Store of G. F. ROLLINS & Co., with a well-selected stock of \$8000 to \$9000, and a good run of custom.

WM. H. ROLLINS, DOVER, N. H., Sept. 4, 1879.

OITUATION WANTED—In wholesale or first-class retail business. A thoroughly competent hard-working man, long connected with and referring to first-class well-known city houses, desires a position. Is posted in builders and general hardware; is a competent bookkeeper and good salesman. No objection to leave the city. Address for reference and full particulars.

WILLIAMS, P. O. Box 1218, New York City.

WANTED.

A small Steam Hammer for hammering puddle

salls for three puddling furnaces.

HAMMER.

Office of The Iron Age, 83 Reade St., New York, A THOROUGH SALESMAN, with many years' experience on the road, and a good acquaintance with the Hardware Trade both East and West, is open for an engagement. Could invest, if desired, a few thousand dollars in a sure and good thing where the man is needed more than the money. Speaks German. Please address "FRITZ".

Office of The Iron Age, 83 Reade St., New York.

Ton sale.—A complete establishment for the manufacture of Boits and Nuts. A commodious brick building covered with slate. A large lot of ground with railroad track. A good steam engine and boiler. Counter-shafting, belts, punches, bolt cutters, lathes, radial drills, taps, dies and everything in complete order for business. Will be sold at a bargain. Inquire of GEO. S. CAPELLE, or ALLEN GAWTHROP, Wilmington, Del.

Sanderson Bros. Steel Co. A limited number of shares for sale by EDWARD FRITH & SON, 241 Pearl street, New York.

Special Notices.

One 9-inch Train Holls,
One 16-inch Train Holls,
Both with Housings.
One Steam Hammer,
One Pair Shears,
One Lot Steel Ingot Molds.
Three Large Woodward Steam
Pumps,
Three Small Steam Pumps,
Two Holsting Engines,
Three Steam Boilers,
One Lighthall Condenser,
One Surface Condenser,
R Pumps, Low Pressure Gauges,
Registering Gauges, &c.

FOR SALE LOW BY

DANIEL W. RICHARDS & CO.,

Scrap Iron & Metals. 88 to 96 Mangin St., New York.

Fifty Cents. JUST ISSUED. SECOND EDITION OF LEIGH'S Discount Book,

with a Guide Page added, by which any desired table can be referred to instantly, without turning a leaf or wasting a moment.

This edition is handsomely bound in cloth, and will be mailed to any address upon receipt of the price, so cents. price. 30 cents.

Bound in leather, with silicate leaves, price \$1. EDWARD B. LEIGH. St. Louis Elevator, St. Louis, Mo.

Or either of the Publishers, viz: IVISON, BLAKEMAN, TAYLOR& CO., New York, R. & T. A. ENNIS, St. Louis. JOHN R. WHITLEY & CO.,

European Representatives of First-Class American Houses,

FIRST-CLASS AGENTS

Principal Industrial and Agricultural Cities and Centers of Europe.

TERMS ON APPLICATION.

LONDON, PARIS. 7 Poultry, E. C. 8 Place Vendome.

THOS. TURTON & SONS.

WM. GREAVES & SONS, Steel, File and Railway Spring Manufacturers.

desire to give notice that they have removed their place of business from 102 John Street, New York, 40 Kilby Street, Hoston, where their American interests will be in future under the management of MR. ALEX. A. ARTHUR.

SHEFFIELD, ENGLAND,

The Sherman Process Co. 9 Pemberton Square, Boston, Mass., Issue Licenses to use the Process for the

Manufacture of Iron and Steel In the Bessemer Converter, Crucible, Siemens-Martin, Puddling, Blast and Cupola Furnaces. The use of this Process improves the quality of the product, saves fuel and labor, and does not re-quire any change in furnace or manner of working See page 17 of The Iron Age of Oct. 25th, 1877.

BUELL LAMBERSON,

No. 97 Chambers Street, New York.

These books may also be had at publishers' prices of WM. BLAIR & CO., Chicago,
A. F. SHAPLEIGH & CO., St. Louis, and
R. W. BOOTH & CO., Cincinnati, O.

TO LARGE CONSUMERS

Malleable and Gray Iron Castings. We can offer special inducements in the way of very superior quality guaranteed, and at fair prices. Being ourselves large consumers and re-quiring the most perfect castings, other work is ensured the same attention.

MALLORY, WHEELER & CO., New Haven, Conn. Valve Refitting Machines.

All users of Globe Valves should have one. Send for circular and price list. A few good agents wanted to sell on commis-GRISCOM & CO.,

Pottsville, Pa. CALIFORNIAN AGENCY.

A San Francisco firm of File and Tool makers having an agent constantly traveling among the consumers in the State and West Coast, is desirous of representing some first-class Eastern Houses in the manufacturing hardware trade. Address AGENCY, 248 Beale St.,

TO MANUFACTURERS AND CAPITALISTS. FLOWER PINS. PATENT FOR SALE.

> J. H. PLUMMER. 1276 Pacific Street, Brooklyn, N. Y. FOR SALE,

Job Lots and Bankrupt Stocks Hardware. Great bargains offered to the trade. A. W. WHEELER,

141 Lake St., Chicago, Ill.

U. S. 60 U. S. 60 U. S. 60 U. S. 60 U. S. 50 U. S. 50 U. S. 50 U. S. 40 U. S. 60 of acti

For

Total i

Gov quoted

Alton ar

The

Trade Report.

Office of The Iron Age, WEDNESDAY EVENING, October 1, 1870.

Since our last issue the specie importations have been large, amounting to more than \$8,500,000-all gold except some \$720,000 silver coin. makes the total specie import nearly \$40,-000,000 since the beginning of the year. The Evening Post gives the following particulars of the recent specie movement, which are interesting: From the 1st day of August last to the close of business yesterday, the specie imports amounted to \$33, 552,628, of which \$10,256,283 came from Great Britain, \$19,098,858 came from the Continent, principally from France, and \$4,197,487 from the West Indies and South America classified. The \$83,552,628 imported since August 1, consisted of \$20,434, 571, foreign gold coin, \$8,544,421 gold bars and bullion, \$3,115,982 United States gold coin, \$951,971 United States silver coin, \$402,022 foreign silver coin, \$9887 gold dust and \$12,774 silver bars. These figures are taken from the official record at the Custom

The money market is active and rates firm. On call loans the rate is 5 @ 6%, with 7 % as the exception. Prime mercantile paper is not affected by the temporary stringency, and is quoted at 5 @ 6 %.

The stock market has been very strong and active, with large transactions and prices from I to 101/2 % higher than last The principal dealings have been in the coal shares, Erie, Canada Southern, Michigan Central, and Western Union. We give below the closing quotations of active shares.

In the bond market railroad mortgages, both investment and speculative, have been at the close of business to-day is \$30 @ \$31. strong. We give below the closing quotations of governments.

this time last year, and \$8,435,000 at the orresponding period in 1877. The loans during the week. show a gain this week of \$1,372,700; the the circulation increased \$147,000.

totals of this week compared with that of

	Sept. 20.	Sept. 27.	Com	parisons.
Loans	\$250,301,000		Inc.	\$1,372,700
Specie	10,942,000			75,400
Legal t'nd'ru	42,029,400	40,047,700	Dec.	1,981,700
Tot. reserve.		60,065,200		1,006,300
Deposits	228,271,000	229,983,000	Inc.	1,712,000
Reserve re-				
quired	57,067,750	57-495-750	Inc.	428,000
Surplus	4,903,650	2,569,350		9,334,300
Circulation.	97. 284.000	01.531.000		147,000

The foreign trade movements at the port of New York since our last issue are shown in the following tables:

IMPORTS.

Dry goods General mdse	\$1,432,008 3,766,477	1878. \$1,614,700 4,035,680	1879. \$2,155,488 5,740,838
Total for week.	\$5,198,485	\$5,650,380	\$7,896,318
Prev. reported	244,202,057		332,057,804

Included in the imports were items of merchandise valued as follows:

	Street merchy.	Value.
Anvils	25	\$x60
Brass goods	98	2,883
Bronzes	60	12,194
Chains and Anchors	91	784
Copper		103
Cutlery		37,248
Gas fixtures	*******31	346
Guns	89	18,501
Hardware	6	789
Iron, pig, tons	1.856	23,912
Iron, sheet, tons	76	13,081
Iron, Railroad bars	10,836	45,478
I. cotton ties	3,600	2,481
lron ore, tons	3,133	5,581
Iron, other, tons	3,922	76,983
Lead, pigs	400	1,424
Metal goods	93	8,347
Nails	45	772
Needles		10,097
Nickel	6	1,602
Old-metal		1,219
Platina	3	10,391
Plated ware		55
Percussion caps	22	2,082
Saddlery	5	2,176
Steel	X,449	12,433
Silver ore	953	5,125
Silverware	19	782
Tin, bxs	20,422	136,053
Tin bbls	20	844
Tin, 2,626 slabslbs.	195,284	#9,196
Wire	19	4,129

EXPORTS, EXCLUSIVE OF SPECIE.

For week ended Septe 1877. For the week \$6,775,624 Prev. reported 202,772,411	2878 \$7,054,816 254,379,589	1879. \$8,126,960 \$43,746,947
Since Jan. 1 \$209,548,035	\$261,444,405	\$251,873,907

For the week ended September	27 :
Total for the week Previously reported	. \$8,577,542
Total since Jan.1, 1879	\$39,709,086 lose were
quoted as follows:	Asked.

Government	bonds	at	the	close	were
quoted as follow	8:		1	Bid.	Asked.
U. 8. Currency 6's. U. 8. 6's 1880 regist	ered		2	22%	104%
U. S. 6's 1880 coupe U. S. 6's 1881 regist	onnc		E	0.4	304%
17. S. 6's 1881 COUDS	on		30	24/8	10134
U. S. 5's 1881 regist U. S. 5's 1881 coupe	on		B	02%	10234
U. S. 416's 1891 reg U. S. 416's 1891 cou	pon		30	25%	10538
U. S. 4'S 1907 regist U. S. 4'S 1907 coupe	on			01%	101%
The following					ations

of active shares: Bid Asked.

*American District Telegraph 63
Atlantic and Pacific Telegraph 35
Burlington and Quincy
Canton Southern 5978
Canton
Cleve., Col., Cin. and Ind 58%
Cleveland and Pittsburgh 1031/2
Chicago and Alton of
Chicago and Alton
Delaware, Lack, and Western 683/6
Delaware and Hudson Canal 60%
Express-Adams1021/2
" American 50%
" United States 4534
" Wells, Fargo & Co 991/2
Erie 3438
" Pref 59%
Harlem156
Hannibal and St. Joseph 241/4 Pref 531/4 Illinois Central 913/4
Pref 531/4
Illinois Central
Ind., Cincinnati and Lafayette 7
Kansas Pacific
Lake Shore
Michigan Central 805%
Morris and Essex
Nashville and Chattanooga 45
New Jersey Central 60%
Northwest
" Pref
Northern Pacific 23
" Pref 50
Ohio and Mississippi 1934 Pref 5134 Pacific Mail 3052
" Pref 5134
Pacific Mail 301/2
Panama
Quicksilver
Preferred 53%
St. Louis and Iron Mountain 43%
St. Louis Kansas City Northern 243
Pref 00%
St. Louis and San Francisco 19
Pref 211/2
" Pref 21½ " 1st pref. 46 St, Paul 68¾
St, Paul
Ct David and Claum City Duck
Union Pacific
Wabash
Western Union Telegraph 93%
* Ex-dividend

GENERAL HARDWARE.

The tone of the market is feverish and excited, due in a great measure to the steady advance in the price of Iron. In our issue of Sept. 18 we quoted No. 1 Foundry Iron, \$25 @ \$26 per ton; since then sales at \$30 and \$31 have been made, and the quotation with the tendency still upward.

The demand for General Hardware con-The bank return shows a decrease of tinues very active, and, as is usual on a ris-\$2,334,300 in surplus reserve, which now ing market, there is a considerable speculastands at \$2,569,350, against \$9,797,300 at tive inquiry. We print below the changes

In foreign Hardware we hear of increased specie is up \$75,400; the legal tenders are activity. The Wiebusch & Hilger Hard-decreased \$1,981,700; the deposits other ware Co. are advised by cable to-day of an ware Co. are advised by cable to-day of an than United States are up \$1,712,000, and the circulation increased \$147,000. important advance in the price of German Halter and Coil Chain. The importers in The following is an analysis of the bank this city have adopted for the present and until fuller mail advices are received, an advance of 10 per cent. on previous figures. We quote the same discount 40 per cent.

A meeting of the Carriage Bolt Mfrs. Association was held in Cincinnati, Ohio, to-day, at which the price of Common Carriage and Tire Bolts was advanced from discount 75 and 121/2 per cent. to

discount 70 and 5 per cent.

The Frary Cutlery Company (Wiebusch & Hilger Hardware Company, agents) have advanced the price of Table Knives about \$1 per gross, the new price taking effect Oc-

The Table Cutlery Manufacturers' Association held a meeting in this city to-day, at which a general advance in prices was adopted, but particulars have not yet transpired.

Nails continue to be quoted at \$3.25 @ \$3.50, and, in view of the upward tendency of the Iron market, there is no disposition on the part of holders to book orders for Nos. 91, 900, 901 future delivery, even at the outside figure. We hear of considerable inquiry, some of which is believed to be speculative. A meeting of the Atlantic States Nail Association will be held in this city to-morrow (Thursday), and the impression in the trade seems to be that Nails will be put up to at least a \$3.50 basis. Pittsburgh and Wheeling quote 10d., \$3.40, with 10¢ off 200-keg lots and 2 per cent, for cash in 10 days. Our market closes strong at \$3.25 @ \$3.50, net, for 10d.

The following joint circular of the Enterprise Manufacturing Company of Pa. and the American Machine Company, reached and have changed their discount from 65 us too late to appear in our issue of the 25th and 2 per cent. to discount 60 and 2 per

PHILADELPHIA, Sept, 20, 1879.
On account of the advance of everything appertaining to the manufacture of Mrs. Potts' Sad Irons, we have concluded to advance the price on and after September 27. Any orders you may be pleased to send us before that date will be accepted for immediate delivery, and receive our best attention at old prices. The discount after Sept. 26 at old prices. will be 25 per cent., instead of 331/3.

Yours truly, Enterprise Manf'g Co. of Pa., AMERICAN MACHINE Co.

The American Screw Co. have issued the following circular:

PROVIDENCE, October 1, 1820. GENTLEMEN: The accumulation of orders for the products of our Bay State Mill, together with the advance in the price of Iron, and the difficulty of obtaining certain desirable brands, compels us to decline accepting further orders for Machine Screws, Stove Bolts, Tire Bolts, Rivets and Coach Screws, except for execution at rates ruling at time of shipment.

For the above reasons we are also compelled to ask the indulgence of our patrons for a time, in the execution of specia pelled to ask the indulgence of our patrons, for a time, in the execution of special orders, which are at present beyond precedent. There will be no lack of attention to your wants, and if preference in execution of any portion of your orders is desired, we will thank you to inform us.

We are running our Bay State Mill expected by the continued advance in price of our whous receiving assistance from our large form our large form of the real discount from list. Agricultural,

operation a large amount of machinery, now nearly completed, which, with our other, will be more than competent to supply even the present demand.

Yours very truly,
AMERICAN SCREW Co. Further advances in the prices of Locks, Knobs, &c., are announced as follows:

NOTICE.

New York, September 26, 1879.
We have this day made our discount on Locks, Knobs, Escutcheons, Keys, &c., on pages 1 to 168 of 1879 catalogue, 60 per cent. Our discount on Real Bronze Goods continues 10 per cent., subject to change without notice. All orders subject to our ruling rates at date of shipment. No prices guaranteed.

RUSSELL & ERWIN MFG. Co.

NOTICE.

NEW YORK, September 26, 1870. We have this day made our discount on Padlocks, on pages 387 to 413 of 1879 catalogue, 10 per cent., in place of 33½ per cent., as heretofore, subject to change without notice. All orders subject to our ruling rates at date of shipment. No prices guaranteed.

RUSSELL & ERWIN MFG. Co.

NOTICE.

NEW YORK, September 27, 1879. We have this day made the following changes in list prices :

Door Locks	and Latches.
Nos. Per doz. 000 \$4.15 040 1.75 024052 4.85 0551 2.25	8401/2 4.50
Door 1	Knobs.
Nos. Per doz.	Nos. Per doz.
300 \$4.25	
310 4.25	1300 4.2

..... 3.08 1500.... Closet Knobs same price as Door Knobs All prices subject to change without notice

All orders subject to our ruling rates at date No prices guaranteed. Russell & Erwin Mfg. Co. of shipment.

NEW HAVEN, September 26, 1870. We this day advance our Padlocks and we this day advance our radiocks and Padlock Keys to 10 per cent. discount, in place of 33½ per cent. All other goods on our list of August 1, 1879, advanced to 33½ per cent. discount, in place of 42½ per cent. We have also advanced list prices as fol-

No.														Œ.	1	N	0,					_			_	7	P	e	r	doz
A												2	١.	70	ı	02	18	3.		0				,						\$1.8
D.,			, ×	+	*	6		*	,			2	١,	90	ı	23	6.											. ,		2.5
E												X		55	1	23	8.					 							0	2.5
F									 			X	,	65	ŀ	02	38	3.		0	۰		۰	۰						2.5
G .												1		35		25	2 .			۰	4	 		0					,	1.8
H												X	,	55	1	25	3.			,		 	,							1.8
J			p	۰		0 1			 . ,	. ,		2	,	50	ŀ	02	53					 								1.8
K														05	ŀ	25	4 .		,	0		 	۰		0				,	2.5
216.						0 1						1	,	85	1	25	5.						,							2.5
218.		v					. ,		 . ,		0	3		85		02														2.5

MALLORY, WHEELER & Co.

Office of the Norwich Lock Mfg. Co. | Norwich, Conn., September 27, 1879. We this day advance our discount on Door Locks, Knobs and Escutcheons, to 37

per cent., and 2 per cent. for Cash—30 days.
All orders subject to our ruling rates at date
of shipment. Norwich Lock Mfg. Co. of shipment. Norwich Lock Mfg. Co.
Owing to the rapidly advancing prices of
metals and labor, the above discount is quoted, subject to change without notice.

The Branford Lock Works announce the following changes in list prices. Their complete revised price list will be issued in a a day or so, and will be subject to discount 60 and 2 per cent, for cash in 30 days :

LOCES AND LATCHES.

Nos. 91%, 900%		0	0 1	. 0	0	0 1				0	0	0 1			0	۰	۰	0	۰							
Nos. 92, 902, 904										0																
Nos. 9214, 90216 .																										
Nos. 93, 903, 905.																										
Nos. 931/2, 9031/2.														i	ì	Ì										
NOS. 0460, 1460, 14	46	1												ì	_											
NOB. 0460%, 14601	Z													_	_			1								
Nos. 200%						٠				•	۰	۰					,	۰			0	0	0	۰	0	
Nos and analé								۰	۰	۰				۰		٥									0	
Nos. 203, 2031/2		0							*	,	4	0 0		۰	4	٠	0 1	,						•		
No. 498			0			0	0, 1		۰		۰		0 0				D	0	0	٥	0	•			. 0	
No. 262	1 0			٥	0 1				۰	0			4			0 .	0 1						. 0			
NOS. 1023, 1073		*		0	0	, ,		0	0	0	0 1	, ,		0	0	0							. ,			
No. 09		0 1		4			,			0.1			0	0			. ,		. ,			,				
				H	C.	K	H	3.6	į.																	
NOS. 100, 102, 104,		RC	6																							
Nos. 200, 203, 204,		20	26									1	Ď						1	1	*				*	
Discount 60 and	0		D.A.	, P				i.		1			à					1	à				.*	*	×	

P. & F. Corbin have made the following changes in list prices of Locks and Knobs. cent., cash.

LOCKS. KNOBS 3.08 825.. 3.08 826.

The Stanley Works, New Britain, Conn., and No. 79 Chambers street, New York. have made additional changes in discounts, as follows :

They will issue a new discount sheet in a

The manufacturers of Copper Rivets and Burs have advanced the price to discount 40 per cent. The list remains without

sked. tra hours, receiving assistance from our per cent. discount from list; Agricultural, wood-screw mills, and will soon have in 70 per cent. discount from list. Without

further notice, all previous quotations are hereby withdrawn and annulled.

GIRARD WRENCH M'F'G CO. LIMITED. The manufacturers of Cast Shears have adopted the following prices to take effect Oct. I:

No...... o 1 2 3 4
Per gross. \$14.00 18.00 20.00 24.00 30.00
Discount, 50% to per cent. Terms, 60 days net, or 2 per cent. cash in 10 days.

The Stanley Rule and Level Co., have advanced the price of Boxwood Rules to discount 65 and 10 per cent. and Ivory and Miscellaneous Rules to discount 55 and 10 per cent.

The J. L. Mott Iron Works announce the following changes in discounts under date of the 26th ultimo:

88 AND 90 BEERMAN STREFT, New York, Sept. 26, 1879. GENTLEMEN: On and after this date, our iscount on all Sinks, Sink Fixtures, Slop Hoppers, Cesspools, Stop-cocks, Street Washers, Solder Pots, Solder and Trap Moulds, Boiler Stands, Charcoal Furnaces, Plumbers' Furnaces, Bath Tubs, Sectional Tanks, Wash Stands, Wash Basins, Closet

Bowls, Hoppers, Hopper Traps, Hopper Closets, and Privy Sinks (Plain, Galvanized and Enameled), will be 25 per cent.
Sectional, Corner and Half Circle Urinals.
Pipe and Fittings, all sizes, Plain, Galvanized

and Enameled, 15 per cent.
Furnace Doors and Frames, Grate Bars,
Sliding Dampers and Frames, Steam Kettles, Stair Plates, Shutter Eyes, Road and Walk Boxes, Vault and Manhole Covers, and Stable Furniture, 20 per cent. On all other goods not enumerated above the discount is unchanged. Respectfully,

THE J. L. MOTT IRON WORKS.

N. B.-All special rates withdrawn. All boxing and cartages will be charged at cost. The Rhode Island Horse Shoe Co. adanced the price of Horse and Mule Shoes ½ cent per pound, as will be seen by the following circular. The new price took effect to-day. The figures quoted in the circular are prices f. o. b. at the works. The price from store in New York is 121/2 cents per keg additional :

[Circular and Price List, No. 3.] Office of the Rhode Island Horse Shoe Co. PROVIDENCE, R. I., October 12t, 1879.

To the Trade: We take great pleasure To the Trade: We take great pleasure in again offering you the several brands of Horse and Mule Shoes manufactured by us. The rapidly increasing demand from all sections of the country for these goods is a sufficient guarantee of the many superior qualities they possess. Thanking you for your patronage in the past, we hope by strict attention, both to the details of manufacture and to the wants of the trade, to facture and to the wants of the trade, to merit a continuance of your favors.

We have advanced the price of our Horse and Mule Shoes and are prepared to receive orders upon the following terms:

The Perkins New Light Pattern Horse Shoe 4

"Medium Pattern "

"Heavy Pattern "

Perkins Snow or Trotting Shoes 4

"Mule Shoes, Nos. to 6 5

"Jack Shoes 5

"Jack Shoes 5

"Jack Shoes 5

"Shoes 5

"Medium Pattern "

"Heavy Patter " Jack Shoes.

The following discounts will be consumed the year;
Per cent.

On lots of 500 kegs...
11 1000 kegs, or less than 1500.
12 1500 11 2000 11 2000. A specification of sizes will be required when orders are accepted. Shipments will be promptly made in their turn. Terms of payment, cash in 30 days from date of invoice. If unpaid, subject to sight draft without notice. We reserve the right to dewithout notice. We reserve the right to decline orders, also to advance prices at any time, except upon contracts made prior to such advance. Strikes of operatives, or suspension in case of fire, will relieve us from prompt fulfillment of contracts. Shoes assorted as required. Please note reduction on Snow Shoes, being but a half cent advance on price of Horse Shoes, instead of one cent

The Peck, Stow & Wilcox Co. have issued a circular announcing a further advance in the goods formerly made by the Hart, Bliven & Mead Mfg. Co. They say, referring to their discount sheet No. 4: pages reading 40 per cent. discount change

to 35 per cent. All pages reading 45 per cent. discount change to 40 per cent." The following Circulars explain themselves:

Douglas Axe manufacturing Co, Boston, September, 26, 1879. DEAR SIRS:—In consequence of the continued advance in all materials, we ar compelled to give notice to the trade that hereafter orders will be accepted by this Company subject to prices ruling at time of delivery. For the present the price of Hunt's Axes is fixed at \$8.00 per dozen. Discount on Tools, 35 per cent.
D. D. Dana, Treas.

SPECIAL NOTICE TO THE TRADE. On and after date the list of No. o Traps will be as follows: This price will apply to all invoices bearing this and subsequent dates.
ONEIDA COMMUNITY. ONEIDA, N. Y., September 26, 1879.

MERIDEN, Conn., September 22, 1879. To the Hardware Trade.—Gentlemen: On and after this date the discount on Parker's Patent Blind Hinges, for full cases, will be 75 per cent. from following list:

For Wood Buildings.

For Brick Buildings. Per doz. sets. \$5.25 5.50 6.25 7.00 5.25 In Cases of 4 Dozen. Nos...... 0 10 11 12 Per doz. sets.... \$8.00 0.00 10.25 12.00 Soliciting your further orders, we remain yours truly, The Charles Parker Co.

NEW YORK, September 27, 1879. DEAR SIR: Owing to the recent great ad vance in the price of materials of all kinds, we are compelled to advance the price of Spring Balances, both Straight and Circular, to 20 per cent. discount, and 10 per cent. additional for prompt cash. All former quotations are hereby revoked. Trusting that, as heretoffer, you will favor us with your herotofore, you will favor us with your orders. We remain, very truly yours,
JOHN CHATILLON & SONS.

CHARLES FORSCHNER. LANDERS, FRARY & CLARK

Russell, Burdsall & Ward have issued the following revised discounts under date of 25th ult. PORT CHESTER, N. Y., September 25, 1879.

Our present prices are as follows: 05 .6000 10 Cents per pound

Terms, 4 months or 5 per cent. discount for cash within 30 days from date of invoice. Bills payable in New York funds. Prices subject to change without notice.

S. H. & E. Y. Moore, Chicago, Ill., have announced advances in prices of their specialties as follows :

163 and 165 LAKE ST., CHICAGO, Sept. 29, 1879. GENTLEMEN: Owing to the recent advances in iron we are obliged to withdraw all former quotations on "Climax" Barn all former quotations on "Climax" Barn
Door Hangers, and our specialties generally,
and shall sell hereafter until further notice
at discounts named below. We solicit the
continuation of your valued favors at these
rates.

Very truly yours,
S. H. & E. Y. MOORE.

Climax "Barn Door Hangers "Locomotive "Barn Door Hangers Rollers Rollers Rollers Hangers "Acme" Rollers Roller Dis. per cent Double Flange Rail, per 100 feet, \$2.50. Single Flange Rail, \$2.40.

Henry Disston & Sons, proprietors of the Keystone Saw, Tool, Steel and File Works, Philadelphia, have issued the following, under date of 29th ultimo :

To the Hardware Trade .- All orders on our books at this date will be filled at present prices. Goods ordered hereafter will be in-voiced at the ruling rates at date of ship-Free on board cars at the works at Valley Falls,
L.I. We do not anticipate any advance in our goods. Annexed you will find our discounts:

to 58 to 81 inclusive, except Band Saws. Band Saws The above are factory rates, and bills un-

paid by the 20th proximo will be drawn for at sight. HENRY DISSTON & SONS. We have received from the Iowa Farming

Tool Company, of Fort Madison, Iowa, a copy of their illustrated catalogue and price list for the season of 1879 and 1880. Among the goods shown are Animal Pokes. Scythe on price of Horse Shoes, instead of one cent as heretofore. Messrs. Horace Durrie & Co., 7 Chambers and 81 Reade streets, New York, will continue to act as our agents, and they are authorized to sell at all times at our they are authorized to sell at all times at our Snaths and Grain Cradles, Steel Hay, Malowest factory prices. A full assortment of our shoes we propose to keep in their store, ready for immediate delivery.

RHODE ISLAND HORSE SHOE Co.,
F. W. CARPENTER, President. and a brief description of the city; it contains about 50 pages, and the engravings, typography, paper and presswork are all first class. The lists given are those established by the Associated Manufacturers of Agricultural Tools.

John Chatillon & Sons have issued under date of 1st instant, the following revised discounts to apply to their price list of July 1,

DISCOUNT SHEET TO JOHN CHATILLON & SONS'
PRICE-LIST OF JULY 1, 1876.
Page. DISCOUNTS. Per cent.
7, Silk Balances. Letter Balances. 25
Brass Sportsman's Balances. 26
Light Spring Balances. 26& to
Round Spring Balances. 26& to
to 14, Straight Spring Balances, Nos. 36/s to 6 to 34B, Circular Spring Balances, Nos. 23 To hang, Nos. . . so 30 43 #3.50 3.00 6.50 To stand, Nos. . . 25 35 65 #4.75 4.00 8.50

Inch Cts. Inch C

40 to 55, Trip Scales, all styles. 56. Iron Nest Weights 57. Cased Brass Nest Weights 56. Solid 56. Ripe Weights	THE IRON AGE. 331, Drawer Pulla, Nos. 500 to 522. 331, Nos. 800 to 8003 45, 47, Gate Latches, No. 65. 333, Nos. 800 to 8003 335, 48, 49 Latches, No. 65. 333, Brass Drawer Handles. 334, Brass Drawer Handles. 335, Barn Door Hangers and Rollers 65, 213, No. 15, Brass Tru 334, Vor Handles, No. 8007 45, 50 B, Anni-Friction Hangers. 346, 49 September 1, No. 8007 85, 80 B, Anni-Friction Hangers. 357, No. 20, Brass Tru 358, 359, Anni-Friction Handles, No. 8007 85, 80 B, Anni-Friction Hangers.	October 2 1800
57. I veelsior Scales. 57. Union Scales. 58. Union Scales. Common Union Scales No. 1, all Steel Bear- ings, each \$6. 10 grocers Counter Scales. 59. Platform Scales 61. Japanned Patent Balances, No. 1, New List. 25 61. Best Japanned Patent Balances. 62. Polished 63. Cotton Beams. 64. Cotton Beams.	334, No. 8000. 40 35. Door Pulls, No. 8000. 500 36. Coat and Hat Hooks 30 37. Coat and Hat Hooks 30 38. No. 8730. 50 Nos. 23 to 26, change list as follows 55 Nos. 23 to 26, change list as follows 216, Flush Prawer Har 218, Nos. 30 37. Nos. 8000, 8010 30 38. 23 24 25 26 39. Nos. 410.66 \$0.50 0.80 1.05 26 30. Nos. 410.66 \$0.50 0.80 1.05 26 314. Shelf Box and Riv 216, Flush Prawer Har 217, "Chest Handles. 22 24, Trap-Door France Hardward Prayer Har 22 25 26 38. Nos. 23 24 25 26 39. Nos. 410.66 \$0.50 0.80 1.05 26 39. Nos. 410.66 \$0.50 0.80 1.05 26	324 A Celling Pulleys 60
62. Poises	2, Box and Cotton Hooks 25 56, No.8, 363, 364, 365, 364, 365, 364, 365, 364, 365, 364, 365, 364, 365, 364, 365, 364, 365, 364, 365, 364, 365, 364, 365, 365, 365, 365, 365, 365, 365, 365	ndles, change list 50 338-336, Shift Brackets 50 317-343, Foot Scrapers, No. 2 2.60 3.70
The following Stove manufacturers have sissued circulars announcing an advance in the price of Stoves: Michigan Stove Co. Detroit Mich.	Cupboard, Nos. 5c to 61. 3213 62. Bolts. No. 3c 5. 50 7. 50 244, Brass Hat Hooks. 3c 7. 50 8c	50 354 Open Links, change list 50 60 Nos 60
N. Y. Co-Operative Stove Works, Troy, N. Y. Burdett, Smith & Co., Troy, N. Y. Ransom Stove Works, Albany, N. Y. Swett, Quimby & Perry, Troy, N. Y. Cores & Core	Kahala Nos. 120, 121 40 68, Bolts 50 250, Ceiling Hooks, Berlin E No. 8106 50 69, Nos. 871, 423 60 251, Harness Hooks Chain Door Fasts 40 Nos. 891 60 252, Store Rack Hooks Ahala Letter Plates, No. 8033 40 70, Nos. 891 60 253, Clothes Line Hooks Yooks' Bells 71, No. 481 Nos. 891, change list 6 in, \$35, 8 in 65 252A, Wrought Clothes Line	Ceiling Hooks 50 356, Hitching Hooks and Hitching Rings 60 370 356, Eye Bolts 60 370 370, 012, Screw Hooks 80 4dd No. 110, Screw Hooks, same as No. 112, not Hooks 60 100 100 100 100 100 100 100 100 100
Geo. H. Phillips & Co., Troy, N. Y. J. Van Wormer & Co., Albany, N. Y. Schenectady Stoye Co. Solvery, N. Y. 370, 8 370, 8 371, 8 371, 8 371, 8 371, 8 372, 8	10 Cranks 50	Per doz \$\frac{\pi_2}{2.60} \ \frac{7:16}{2.60} \ \frac{\pi_4}{2.60} \ \frac{\pi_6}{2.60} \ \frac{7:16}{2.60} \ \frac{\pi_6}{2.60} \ \frac{3.50}{4.20} \ \frac{5.60}{5.50} \ \frac{5.60}{1.00} \ \frac{3.50}{3.50} \ \frac{1.00}{4.20} \ \frac{5.60}{5.50} \ \frac{5.60}{6.00} \ \frac{3.50}{3.50} \ \frac{1.00}{4.20} \ \frac{5.60}{6.00} \ \frac{3.50}{3.50} \ \frac{1.00}{4.20} \ \frac{1.00}{6.00} \ \frac{3.50}{6.00} \ \frac
the following joint circular from the Pitts-burgh Stove manufacturers: To the Trade: Owing to the rapid and continued advance in price of Pig Iron and all other material entering into the production of Stoves, Grate Fronts, &c., the understood of the stoves of the production of Stoves, Grate Fronts, &c., the understood of the production of Stoves, Grate Fronts, &c., the understood of the production of Stoves, Grate Fronts, &c., the understood of the production of Stoves, Grate Fronts, &c., the understood of the production of Stoves, Grate Fronts, &c., the understood of the production of Stoves, Grate Fronts, &c., the understood of the production of Stoves, Grate Fronts, &c., the understood of the production of Stoves, Grate Fronts, &c., the understood of the production of th	Salls Sall	16 Eyes
adopted 25 per cent. as the rate of discount from our respective lists. A. Bradley & Co., Bissell & Co., H. Anshutz & Co., John B. Herron & Co., Deham & Co., Graff, Hugus & Co. Pittsburgh, Sept. 17, 1879.	Hooks. 50 By Bolts, No. 562 (change list of 6 in. to \$14.) 60 Solutions of the control of the co	24/4 24/4 30, 50, 50, Iron Bench Screws 50 1018
a o the Trade, Was in the same	NO *- 120	Tor 100 3/4, Flumb Robe
ter this date, until further notice, and af an	ow, Fast Joint Butts Fer cent. 100, Cupboard atches 100, Cupbo	
be imperative should the cost of raw materials continue to increase. Yours truly, MAGBE FURNACE CO., ALBT. N. PARLIN, Treasurer. In the present unsettled condition of the issuing circulars notifying the trade that they have feet to be increased.	OCTOBER 1, 1870. LOW LIST PRICES IN CATALOGUE OF 1877. CO., New York and New Haven, U. S. A. Abject to change without notice. Discount OW, Fast Joint Butts. Per cent. Joy, 100 Puttons, No. 20. St. Cupboard Latches (change list of No. 95) Cupboard Latches (change list of No. 95) Cupboard Latches, No. 241, 100, 100, 100, 100, 100, 100, 100, 1	. 60 38s., Ox Bow Pins
tions, and will be pleased to quote prices on application. Since our last writing we have received notices to this effect from the undermentioned: Wallace & Sons, New York. J. & W. Rothery, Coulter & Flagler, agents, New York.	Sorn Butts, Nos. 68, 69. 55 55 55.80 55 55 55.80 55 55.80 55 55 55.80 55 55 55.80 55 55.80 55 55 55.80 55 55 55.80 55 55 55.80 55 55 55.80 55 55 55.80 55 55 55.80 55 55 55.80 55 55 55.80 55 55 55 55.80 55 55 55 55.80 55 55 55 55.80 55 55 55 55 55.80 55 55 55.80 55 55 55 55.80 55 55 55 55 55.80 55 55 55 55 55.80 55 55 55 55 55 55 55	35 34 34 35 36 36 36 36 36 36 36
White & Sanson, Frankford, Philadelphia. Washburn & Moen Manufacturing Company, New York. The Colwell & Collins Norway Bolt Company, Cleveland, Ohio. Wilson Manufacturing Company Londow Company New York.	24-126, Closet Catches 55 124, Screen Door Catches 56 125, Screen Door Catches 56 126, Screen Door Boor Boor Boor Boor Boor Boor Boor	4.00 386, Mop Heads 40 40 40 40 40 40 40 4
The Keystone Hardware Manufacturing Company, of Reading, Pa., having leased their property for a series of years to the Reading Hardware Company, offer for sale their entire line of patterns. We invite at- tention to their advertisament on page 20, where further particulars with 1 on page 20, where further particulars with 1 on page 20,	Loose Pin Butts	395, Koller Ends and Shade Brackets
295. Copper Butts, No. 8015 Per lb 3	8 10 12 14 in. 50 2832 2833 2838 2830 For doz. 80.66 6 2% 21 21	410, Coal Shovels 411, Stove Cover Lifters and Pokers.
315 Metropolitan 40 315 Jones 50 316 Nos. 807 and 808 50 316 Nos. 807 and 808 50 318. Sash Lifts Nos. 20 to 136 40 319 Nos 8070, 80 5, 80 4. 54 319 Nos 8070, 80 5, 80 4. 54	e and sizes as No. 60: net	40 417, 418 Fire Iron Stands
321, Polls, No. 8080. 45&5 321, Hooks, No. 8027. 50 322, Centers, No. 8027. 50 323, Centers, No. 8027. 50 324, Window Springs 50 325, Window Springs 50 326, Cast-Brass Buttons, 50 327, Cast-Brass Buttons, 50 328, Last-Brass Buttons, 828, Sepanned Iron Buttons, Raised and Flat 50 329, Cast-Brass Buttons, 828, Sepanned Iron Buttons, Raised and Flat 50 329, Cast-Brass Buttons, 828, Sepanned Iron Buttons, Raised and Flat 50 329, O. 300, 79, Wedder Hook	and sizes as 66 : 8, 10 bs., \$6.85 : 14 in and 55 Nos. Selson Pulls, change list. Selson Pulls, change list. Selson Pulls, change list. Selson	422, Chair Screws 500c10 3 423, Table Fasts 500c10 3 423, Table Fasts 500c10 423, Bed Spring Staples 60 3/4 424, 425, Bed Fastenings 50 3/6 424, 425, Plate Casters, low list 50 3/6 426, 427, Plate Casters, low list 30 3/6 420, Phil'd Plate and Socket Casters 30 3/6 430, Shallow Socket Casters 30
327. Show case Joints 408, 400 to 440, 40 Improved Gravity Blin wood, per doz, sets e.	bs. \$5.55.	431, Casters for Iron Bedsteads 30 433, 434, Bed Casters, low list 30 435-437. Bracket Bed Casters 30 A88-440, Truck Casters 30 Ten per cent, extra di count for prompt cash.
330, No. 8501, Soc. 3, 42-43, Reversible Gate H. Nos. 8502 and 8503 4065 44-47, Gate Hinges.	5 No. 3, for brick, 205, 207, 305, 207, 305, 207, 305, 207, 305, 207, 305, 207, 305, 207, 305, 207, 305, 207, 305, 307, 307, 307, 307, 307, 307, 307, 307	No. 20, Stands only \$28.00 Butt or Ha

No. 52. Pare only, Wooden Handle	3.75
Tusc an Bronzed Stand, Japanned Shovels, &	town !
No. 26, Tuscan Bronzed Stand, Japanned Poker, Shovels and Tongs, complete	9.60
No. 36, Tongs only, Japanned No. 62, Pokers only, Japan'd, Wo'd'n Han'l. Discount, 45 per cent.	2.40
. 10 per cent. extra discount for prompt cash.	
Revised Lists and Discounts, September 15th, Cast Coal Shovels—Page 410 of Catalogue.	
Nos	2.00
Stove Cover Lifters-Page 411 of Catalogue	
No. 12, Tuscan Bronzed, No. 17, Nickel-Plate	8.8o d.
Per gross\$10,00 35.00 Discount, 40 per cent. Pokers—Page 411 of Catalogue.	
Nos Iron Head,	5
Nos 21 22 23 24 25	26
Per dozen\$4.75 5.25 7.00 7.50 \$.00 Discount, 40 per cent. Blower Stands—Pages 412, 412A, 413 of Catalo	9.00 gue.
Nos 1 2 5 15 19 25 Per dog\$8.00 6.60 12.50 15.50 17.00 14.00 Discount 40 per cent.	
Fire Dogs—Pages 414, 415 of Catalogue.	
Per pair\$1.20 1.60 2.50 1.43	
Per pair\$2.00 9.85 2.10 a.66 Nos	
Was 50 60 00 00	
Per pair\$3.80 3.50 3.75 3.75 Discount, 50 per cent. Fire Iron Stands—Pages 416 to 419 of Catalo Nos 7 8 13 19 24	gue.
Per dom\$19.50 10.25 24.00 14.50 22.50 Nos 70 80 130 190 240	
Per doz\$80.50 17.50 25.00 15.50 23.79 Nos 28 29 30 31 32 Per doz\$17.50 19.00 22.00 23.00 26.00	
Discount 40 per cent. Imbrella Stands—Page 418A of Catalogue.	
No. 55, per dozen, \$35. Discount 40 per cen Ten per cent extra discount for prompt cash.	e.
The Pittsburgh Hinge Co. (Henry B. N hall, No. 11 Warren street, agent) have	is-
sued the fellowing list and discounts Chains of their manufacture:	Ior
Coil, Self-Colored or Black, Best Close Link	
Cts. per lb., net 15 9 8 s-10 7 5-10 7	7-16
Cts. per lb., net .7 1-10 69-10 66-10 65-10 63-10 Straight or Twist, same price to 7-16, inclusive	5 9-10 ve.
Brake Chain, with Eye Bolts, for Cars. Inch	5-16
Well, Bright, with Ring and S. Hook, total length so inches, No. s, per doz., net	1.40
Log, Bright, with Wrought Swivel, two Hook	s, or
Inch	68-10 Link
Log, with Wrought Swivel, two Regular Pat Hooks, or one Regular and one Grab Hook.	tern
Lariat Chains, 3-16 round, with two Swivels,	coil.
Snap and Ring, per doz., net	34
Inch	756
Plack set inch ets per lb. net.	71/2
Wagon Chains, Stay, Lock and Tongue, Black, & inch, cts. per lb., net	n 8.6
Wagon Chains, Stay, Lock and Tongue, Black, 5-16 inch, cts. per lb., net	7½ 1-10 1-10
American size. English size. Per I	7½ 1-10 1-10 25
Traces, Bright Straight Link with Ring. American size. Rnglish size. Per I 61/4 6 4 61/4 6 3 \$0.00 61/4 8 4 61/4 10 3 .77 61/4 10 4 61/4 12 3 .77 61/4 12 4 61/4 14 3 .88	7½ 1-10 1-10 25 pair.
Traces, Bright Straight Line West Aring. American size. Ragish size. Fer J. 6½ 6 4 6½ 8 3 6,6; 65 10 3 76 6½ 10 4 6½ 10 3 77 6½ 12 4 6½ 14 3 85 6½ 14 4 6½ 10 3 1 65 14 6½ 6 2 60 6 2 60 6 2 .	7½ 1-10 1-10 25
Traces, Bright Straight Link West Ring. Merican size. Rogish size. Per J. 61/4 6 4 6 6 10 3 76 6 10 10 4 6 6 10 3 77 6 10 10 4 6 6 10 3 77 6 10 11 4 6 6 10 3 78 6 10 10 10 10 10 10 10 10 10 10 10 10 10	7½ 1-10 1-10 25 pair.
Traces, Bright Straight Line West Ring. American size. Rnglish size. Per J. 61/2 6 4 6/5 8 3 \$0.05 6/5 8 3 70 6/5 10 3 70 6/5 10 4 6/5 10 3 70 6/5 12 4 6/5 14 3 88 6/5 12 4 6/5 16 3 100 6/5 6/5 8 3 6/5 10 2 70 6/5 8 3 6/5 10 2 70 6/5 10 3 6/5 12 2 70 6/5 12 3 6/5 12 3 70 6/5 12 3 6/5 12 2 70 6/5 14 3 6/5 15 2 70 6/5 14 3 6/5 15 2 70 6/5 14 3 6/5 15 2 70 6/5 14 3 6/5 15 2 70 6/5 14 3 6/5 15 2 70 6/5 14 3 6/5 15 2 70 6/5 14 3 6/5 15 2 70 6/5 14 3 6/5 15 2 70 6/5 14 3 6/5 15 2 70 6/5 16 3 6/5 18 2 70 6/5 16 3 6/5 18 2 70 6/5 16 3 6/5 18 2 70 6/5 16 3 6/5 18 2 70 6/5 16 3 6/5 18 2 70 6/5 16 3 6/5 18 2 70 6/5 16 3 6/5 18 2 70 6/5 16 3 6/5 18 2 70 6/5 18	7½ 1-10 1-10 2-35 pair.
Traces, Bright Straight Link West Artic. Merican size. Roglish size. Per J. 614 6 4 6 6 8 3 5.7 615 10 4 66 8 3 .7 615 10 4 66 8 3 .7 615 14 4 66 10 3 .8 616 18 3 65 8 2 .7 616 10 3 65 10 2 .7 616 10 3 65 10 2 .7 616 10 3 65 10 2 .7 616 10 3 65 10 2 .7 617 10 3 65 10 2 .7 618 10 3 65 10 2 .7 619 10 3 65 10 2 .7 619 10 3 65 10 2 .1 619 10 3 65 10 3 .8 619 10 3 65 10 3 .	7½ 1-10 1-10 25 pair.
Traces, Bright Straight Link Was Artis. American size. Rogish size. Per J. 61/4 6 4 6 6 8 3 6.0 6 6 6 8 8 6 6 1 6 6 8 8 6 6 1 6 6 8 8 8 6 6 1 6 6 8 8 8 6 6 1 6 6 8 8 8 6 6 1 6 6 8 8 8 6 6 1 6 6 8 8 8 6 6 1 6 6 8 8 8 6 6 1 6 6 8 8 8 6 6 1 6 6 8 6 8	7½ 1-10 1-10 25 air.
Traces, Bright Straight Line West Artic. American size. Roglish size. Per J. 614 6 4 6 4 10 3 70 6 5 10 4 6 6 6 12 3 70 6 6 10 4 6 6 12 3 70 6 6 12 4 6 6 12 6 3 70 6 6 12 6 6 12 6 12 6 12 6 12 6 12 6 12	7½ 1-10 1-10 25
Traces, Bright Straight Line merican size. Rogish size. 0 1/4 6 4 6 6/4 10 3 .7 6 1/4 10 4 6 6/4 10 3 .7 6 1/4 10 4 6 6/4 10 3 .7 6 1/4 12 4 6 6/4 10 3 .8 6 1/4 6 1/4 10 3 .8 6 1/4 6 1/4 10 3 .8 6 1/4 6 1/4 10 3 .8 6 1/4 6 1/4 10 3 .8 6 1/4 10 3 6 1/4 10 2 .7 6 1/4 10 3 6 1/4 10 2 .7 6 1/4 10 3 6 1/4 10 2 .7 6 1/4 10 3 6 1/4 10 2 .7 6 1/4 10 3 6 1/4 10 2 .7 6 1/4 10 3 6 1/4 18 2 .1 6 1/4 10 3 6 1/4 18 2 .1 6 1/4 10 3 6 1/4 18 2 .1 6 1/4 10 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 2 .1 6 1/4 18 3 6 1/4 18 1 .9 6 1/4 18 3 6 1/4 18 1 .9 6 1/4 18 2 6 1/4 18 1 .9 6 1/4 10 2 6 1/4 12 1 .1 6 1/4 14 2 6 1/4 10 1 .1 6 1/4 14 2 6 1/4 10 1 .1 7 6 1/4 1 2 8 6/4 10 1 .1 7 6 1/4 1 2 8 6/4 10 1 .1 7 6 1/4 1 2 8 6/4 10 1 .1 7 6 1/4 1 2 8 6/4 10 1 .1 7 7 6 1/4 7 10 3 .7 7 8 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7 7 10 4 7 10 3 .7	7½ 1-10 1-10 25
Traces, Bright Straight Line with Articles and Straight Line (1) 4 8 3 6 6 6 6 4 6 6 6 8 3 6 6 6 8 8 4 6 6 6 8 8 3 6 7 6 6 6 8 8 3 6 6 8 8 4 6 6 8 8 8 7 7 6 6 8 8 8 7 7 8 0 3 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	7½ 1-10 25 air.
Traces, Bright Straight Line with Alleger Per J. 614 6 8 4 656 10 3 76 664 10 4 656 18 3 76 664 10 4 656 18 3 76 656 14 4 656 16 3 86 656 14 4 656 16 3 86 656 16 8 8 77 656 10 3	7½ 1-10 25 Dair,
Traces, Bright Straight Line Merican size. Roglish size. Per J. 614 6 4 6 6 8 3 615 8 4 6 6 8 3 615 10 4 6 6 8 3 615 10 4 6 6 8 10 3 615 14 4 6 6 10 3 615 14 4 6 6 10 3 615 14 5 6 6 8 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 12 3 6 6 10 3 615 12 3 6 6 10 3 615 12 3 6 6 10 3 615 12 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 3 615 10 3 6 6 10 1 615 10	7½ 1-10 2-10 25 0air.
Traces, Bright Straight Line Merican size. Roglish size. Fer J. 614 6 4 6 64 10 3 615 10 4 666 12 3 615 10 4 666 12 3 615 14 4 666 16 3 615 14 4 666 16 3 615 14 5 656 8 2 615 16 3 656 8 2 615 10 3 656 12 10 2 615 12 3 656 12 2 615 12 3 656 12 2 615 12 3 656 12 2 615 12 3 656 12 2 615 12 3 656 12 2 615 10 3 656 12 2 615 10 3 656 12 2 615 10 3 656 12 2 615 10 3 656 12 2 615 10 3 656 12 2 615 10 2 656 12 1 615 10 2 656 12 1 615 12 2 656 14 1 615 12 2 656 14 1 615 12 2 656 14 1 615 10 2 656 12 1 615 10 2 656 12 1 615 10 3 657 12 1 615 17 656 17 7 80 3 7 656 18 7 7 80 3 7 657 13 4 7 8 3 7 657 3 7 8 3 7 10 4 7 10 3 7 10 4 7 10 3 7 10 4 7 10 3 7 10 4 7 10 3 7 10 4 7 10 3 7 10 4 7 10 3 7 10 4 7 10 3 7 10 5 7 10 2 7 10 5 7 10 3 7 10 2 7 10 3 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 3 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 3 7 10 3 7 10 3 7 10 2 7 10 3 7 10 3 7 10 3 7 10 3	7½ 1-10 1-10 25 Dair.
Traces, Bright Straight Line American size. Roglish size. Fer J. 61/2 6 4 6 6/4 8 3 61/4 10 3 61/4 10 4 6/4 14 3 61/4 10 4 6/4 14 3 61/4 12 4 6/4 14 3 61/4 14 4 6/4 16 3 61/4 6/4 3 6/4 10 3 61/4 12 3 6/4 10 3 61/4 12 3 6/4 10 3 61/4 12 3 6/4 10 3 61/4 12 3 6/4 12 1 61/4 12 3 6/4 12 1 61/4 12 3 6/4 12 1 61/4 12 3 6/4 12 1 61/4 12 3 6/4 12 1 61/4 12 3 6/4 12 1 61/4 12 3 6/4 12 1 61/4 12 1 61/4 12 2 6/4 12 1 61/4 12 2 6/4 12 1 61/4 12 2 6/4 12 1 61/4 12 2 6/4 14 1 1 61/4 12 2 6/4 14 1 1 61/4 12 3 6/4 10 1 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 14 1 1 61/4 12 1 6/4 14 1 1 61/4 12 1 6/4 14 1 1 61/4 12 1 6/4 14 1 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 14 1 1 61/4 12 1 6/4 14 1 1 61/4 12 1 6/4 12 1 61/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 6/4 12 1 61/4 12 1 61/4 12 1 6/4 12 1 61/4 12	7½ 1:10 1:10 25 pair.
Traces, Bright Straight Line Merican size. Roglish size. Fer J. 61/4 6 4 6 6/4 10 3	7½ 1-10 1-10 25 air.
Traces, Bright Straight Line West Lines Merican size.	7½ 1-10 1-10 25 pair.
Traces, Bright Straight Line West Market. American size. Roglish size. Per J. 654 6 4 6 4 10 3 76 6 16 10 3 76 6 10 10 4 6 6 10 3 76 6 10 10 10 10 10 10 10 10 10 10 10 10 10	7½ 1-10 1-10 25 pair.
Traces, Bright Straight Line With Miles Register Line Regi	7½ 1-10 1-10 25 pair.
Traces, Bright Straight Line with Holes, and the control of the co	7% 1-10 1-10 25 pair.
Traces, Bright Straight Link Wall Mills Company of the Company of	7½ 1-10 1-10 25 pair.
Traces, Bright Straight Aire. Merican size. Roglish size. 61/4 6 4 6 6 8 3 61/4 10 4 6 6 6 10 3 61/4 10 4 6 6 6 10 3 61/4 10 4 6 6 6 10 3 61/4 14 4 6 6 6 6 2 61/4 6 8 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 12 3 6 6 10 2 61/4 13 3 6 6 10 2 61/4 14 3 6 6 10 2 61/4 13 3 6 6 10 2 61/4 14 3 6 6 10 2 61/4 18 3 6 6 10 2 61/4 18 3 6 6 10 2 61/4 18 3 6 6 10 2 61/4 18 3 6 6 10 2 61/4 18 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 3 6 6 10 2 61/4 10 2 6 10 2 61/4 10 2 1 61/4 10 2 1 61/4 10 2 1 61/4 10 2 1 61/4 10 2 1 61/4 10 2 1 61/4 10 2 1 61/4 10 2 1 .	7% 1-10 25 air. 5
Traces, Bright Straight Link merican size. Roglish size. 61/4 6 4 6 6/4 10 3 61/4 10 4 6/4 11 0 3 61/4 10 4 6/4 11 0 3 61/4 10 4 6/4 11 0 3 61/4 12 4 6/4 10 3 61/4 12 4 6/4 10 3 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 13 6/4 10 2 61/4 14 3 6/4 10 2 61/4 18 3 6/4 10 2 61/4 18 3 6/4 10 2 61/4 10 2 6/4 10 2 61/4 10 2 6/4 11 1 61/4 12 2 6/4 14 1 61/4 14 2 6/4 10 1 61/4 14 2 6/4 10 1 61/4 14 2 6/4 10 1 61/4 14 2 6/4 10 1 61/4 14 7 10 3 7 10 4 7 10 3 7 10 4 7 10 3 7 10 4 7 18 3 7 10 4 7 10 3 7 10 4 7 10 3 7 10 3 7 10 2 7 10 3 7 10 2 7 10 3 7 10 2 7 10 3 7 10 2 7 10 3 7 10 2 7 10 3 7 10 2 7 10 3 7 10 1 7 10 3 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 1 7 10 2 7 12 1 110 1 7 10 1 1 7 1	7½ 1-10 25 pair.
Traces, Bright Straight Link Wall All Company of the Company of th	7% 1-10 25 mair. 5
Traces, Bright Straight Line Merican size. Roglish size. Per J. 614 6 4 6 6 8 3 616 10 4 6 6 6 10 3 616 10 4 6 6 6 10 3 617 14 4 6 6 10 3 618 3 6 6 8 3 618 3 6 6 8 2 619 10 3 6 6 8 2 619 12 3 6 6 18 2 619 12 3 6 6 18 2 619 13 3 6 6 18 2 619 14 3 6 6 18 2 619 15 2 6 6 18 2 619 16 2 6 6 18 2 619 17 18 3 6 6 18 2 619 18 1 619 18 18 1 619 18 18 1 619 18 18 1 619 18 18 1 619 18 18 1 619 18 18 1 619 18 18 18 18 18 18 18 18 18 18 18 18 18	7% 1-10 25 mair. 5
Traces, Bright Straight Airs. Merican size. 614 6 4 6 4 8 3 6 6 8 3	7% 1-10 1-10 25 pair. 5 1-10 1-10 25 1-10 1-10 25 1-10 1-10 1-10 1-10 1-10 1-10 1-10 1-1
### Traces, Bright Straight Airs West West	7% 1-10 1-10 25 mair. 11 11 11 11 11 11 11 11 11 11 11 11 11
Traces, Bright Straight Airs. Merican size. 61/6 6 4 6 6 8 3 6 6 6 8 3	7% 1-10 1-10 25 oair. 10 1-10 25 oair. 10 1-10 25 oair. 10 1-10 25 oair. 10 1-10 1-10 1-10 1-10 1-10 1-10 1-10
### Traces, Bright Straight Aize Merican size. Rogish size. Per p. 654 6 4 6 4 10 3	7% 1-10 1-10 25 mair. 25 2-20 2 2 1-70
## Traces, Bright Straight Aize Merican size. Roglish size. Per p.	7% 1-10 25 1-10 25 air. 25 2-35 2-3-50 3-3-70 5.
Traces, Bright Straight Airs. Merican size. Roglish size. Per p. 61/6 6 4 6 4 6 5 6 3 70 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 6 6 6 1 2 7 6 6 1 2 2 6 6 1 2 1 1 1 1 1 1 1 1 1 1 1	7% 1-10 1-10 25 nair. 28 2-3-50 2 3-50 5 in.
*** Traces, Bright Straight Airs.** American size. *** Cold	7% 1-10 25 25 25 2 2 3-50 in. 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

		66	44	59	62
			48	57	67
- 2		6.5	53	63	74
0		86	61	74	87
0 3			43	50	58
	*** ******		40	55	62
	**********		50	60	70
			54	65	76
			59	71	83
10 2	Diec	ount, 25 p			-3
		ast Chain.			
A ma a mla			sh Size		Per pair,
	can Size.		19 3		80.47
94	10 3	24	19 9		.50
26	10 3	26			-53
27	10 3	27			
24	IO B	94	13 1		-53
26	IO 3	26	13 1		-54
27	10 2	27	13 1		-55
27	9 5-16		*****		-7×
28	9 5-16	**			-75
30	9 5-16		*****		.82
27	Tapered 5	-16 to ¼			.60
		ack Twist,			.76
		per pair e	xtra.	Discour	nt, 25 per
cent. r					
	Co	w Ties, Oh	to Pan	ern.	
		436	ft.	5 ft.	5½ ft.
No. 2.	De	er doz. \$4.	.85	\$5.40	\$3.82
No. 2		60 4	.56	4.80	5.20
		14 4	14	4.30	28.1
			.85	4.03	
No. 4.		11 3			
No. 4. No. 5.			.60	3.78	
No. 4. No. 5. No. 6.		11 3	oo extra.	Discou	
No. 4. No. 5. No. 6. Snap	08, 20 cent		,60 extra.		
No. 4. No. 5. No. 6. Snap cent.,	os, 20 cente	per dos.	extra.	Discot	ınt, 25 per
No. 4. No. 5. No. 6. Snap cent.,	os, 20 cente	11 3	extra. ut Rin	Discot	ınt, 25 per
No. 4. No. 5. No. 6. Snap cent.,	os, 20 cente	per doz.	extra. ut Rin ur.	Discou	int, 25 per
No. 4. No. 5. No. 6. Snar cent., Cow 7	os, 20 cente net. Ties, Oper	per doz.	extra. ut Rin ur. Shut r doz.	Discou	int, 25 per
No. 4. No. 5. No. 6. Snar cent., Cow 7	os, 20 cente net. Ties, Oper	per doz.	extra. ut Rin ur. Shut r doz.	Patte Ring.	int, 25 per erns with Open Ring
No. 4. No. 5. No. 6. Snar cent., Cow 7	os, 20 cente net. Ties, Oper t, No. 6	per doz.	ut Rin ur. Shut r doz.	Patto Ring. (\$3, 10 3-33	erns with Open Ring \$3.60 3.90
No. 4. No. 5. No. 6. Snar cent., Cow 7	os, 20 centa net. Ties, Oper t, No. 6 No. 6	per doz.	extra. ut Rin ur. Shut r doz.	Patte Ring. (\$3,10 3.33 3.68	erns with Open Ring \$3.60
No. 4. No. 5. No. 6. Snar cent., Cow 7	t, No. 6	per doz.	extra. ut Rin ur. Shut r doz.	Discou g Patte Ring. 6 \$3.10 3.33 3.66 3.91	orns with Open Ring \$3.60 3.90 4.20 4.64
No. 4. No. 5. No. 6. Snar cent., Cow 7	08, 20 cents net. Ties, Oper t, No. 6 No. 6 No. 6 No. 6	per doz.	extra. ut Rin ur. Shut r doz.	Discou g Patto Ring. (\$3.10 3.33 3.68 3.91 3.44	orns with Open Ring \$3.60 3.90 4.20 4.64 3.77
No. 4. No. 5. No. 6. Snar cent., Cow 7	t, No. 6 No. 6 No. 6 No. 6 No. 5 No. 5	per doz.	extra. ut Rin ur. Shut r doz.	Discou g Patte Ring. (\$3.10 3.33 3.68 3.91 3.44 3.63	orns with Open Ring \$3.60 3.90 4.20 4.64 3.77 4.02
No. 4. No. 5. No. 6. Snay cent., Cow 1	bs, 20 cents net. Fiem, Oper t, No. 6 No. 6 No. 6 No. 5 No. 5	g per doz.	extra. ut Rin ur. Shut r doz.	Patte Ring. (\$3.10 3.33 3.68 3.91 3.44 3.63 3.98	orns with the control of the control
No. 4. No. 5. No. 6. Snay cent., Cow 1	58, 20 cents net. Fies, Oper t, No. 6 No. 6 No. 6 No. 5 No. 5 No. 5	m per doz.	extra. ut Rin ur. Shut r doz.	Patte Ring. (\$3, 10 3, 33 3, 68 3, 91 3, 44 3, 63 3, 98 4, 39	orns with Open Ring \$3.60 3.90 4.20 4.64 3.77 4.02 4.45 4.95
No. 4- No. 5- No. 6- Snay cent., Cow 7	08, 20 cents net. Fies, Oper t, No. 6 No. 6 No. 6 No. 5 No. 5 No. 5 No. 5 No. 5	a and Sh T He	extra. ut Rinur. Shut r doz.	Patto Ring. (\$3.10 3.33 3.68 3.91 3.44 3.63 3.98 4.39 3.52	orns with Open Ring \$3.60 3.90 4.20 4.64 3.77 4.02 4.45 4.95 3.83
No. 4- No. 5- No. 6- Snaj cent., Cow 1 3 feet 31/4 4- 41/4 4-	58, 20 cents net. Fies, Oper t, No. 6 No. 6 No. 6 No. 5 No. 5 No. 5 No. 5 No. 5 No. 5 No. 4	a and Sh T Re	extra. ut Rinur. Shutr doz.	Patto Ring. (\$3,10 3,33 3,68 3,91 3,63 3,91 3,63 3,98 4,39 3,52 3,74	orns with Open Ring \$3.60 3.90 4.20 4.64 3.77 4.02 4.45 4.95 3.83 4.20
No. 4- No. 5- No. 6- Snal cent., Cow 7	58, 20 centuret. Ciem, Oper 5, No. 6 No. 6 No. 5 No. 5 No. 5 No. 5 No. 5 No. 4 No. 4	a and Sh T Be	extra. ut Rinur. Shutr doz.	Discou g Patte Ring. (\$3. 10 3. 33 3. 68 3. 91 3. 63 3. 98 4. 39 3. 52 3. 74 4. 01	erns with Open Ring \$3.60 3.90 4.20 4.64 3.77 4.02 4.45 3.83 4.20 4.51
No. 4- No. 5- No. 6- Snal cent., Cow 7	t, No. 6 No. 6 No. 5 No. 5 No. 5 No. 5 No. 5 No. 5 No. 4 No.	and Sh T Re	extra. ut Rin ur. Shut r doz.	Discou g Patte Ring, (\$3,10 3,33 3,68 4,39 3,52 3,74 4,02 4,01	ont, 25 per erns with Open Ring \$3.60 4.20 4.64 3.77 4.02 4.45 4.05 3.83 4.20 4.51 5.00
No. 4-No. 5-No. 6-No. 6-	508, 20 centuret. Ciess, Oper t, No. 6 No. 6 No. 6 No. 5 No. 5 No. 5 No. 5 No. 4 No. 4 No. 4 No. 4 No. 4 No. 4	per doz.	extra. ut Rinur. Shutr doz.	Patto Ring. (\$3.10 3.33 3.68 3.91 3.44 3.63 3.93 4.39 3.52 3.74 4.01 4.42 4.45	\$3,60 3,90 4,20 4,64 3,77 4,02 4,45 4,05 3,83 4,20 4,51 5,00
No. 4. No. 5. No. 6. Snal cent., Cow 7	08, 20 centra net. Cles, Oper t, No. 6 No. 6 No. 6 No. 5 No. 5 No. 5 No. 5 No. 5 No. 5 No. 4 No. 4 No. 4 No. 4 No. 3 No. 5 No.	per doz.	extra. ut Rin ur. Shut r doz.	Discou g Patte Ring, (\$3,10 3,33 3,68 3,91 3,44 3,63 3,98 4,39 3,58 4,39 3,58 4,01 4,01 4,41 4,62 4,63 4,63 4,63 4,63 4,63 4,63 4,63 4,63	ont, 25 per erns with Open Ring \$3.60 4.20 4.64 3.77 4.02 4.45 4.05 3.83 4.20 4.51 5.00

3..... 40

BRITISH IRON MARKET.

[Specially Reported by Cable for The Iron Age.]

WEDNESDAY, OCT. 1, 1879 Scotch Pig.—The market is active, the temand increasing, and prices are firmer. A very large business has been done during the week. We quote:

١	mand	and	L	r	r	i	o	e	g	a	r	e		f	i	r	n	16	4)	۴.			7	v	T,	0		0	H	ĸ	ote	:
	Man	nfa	ıc	t	n	1	٦	84	Ì	1	r	0	1	1	-	-	I	g		i	n	k		8	t	0	a	d	y		de	9-
)																																
	Glengar	noc	k.					0		 0		0 1		0					0	9	0							0	0 1		65,	6
1	Coltness	8												×	×		. ,			ě		,	. ,	*	*	. ,					69	1
1	Gartshe	rrie			.,		×	*							×			*						×				e		. ,	64	1

est Staffordshire Bars, £7. 10/. Rails.—New Iron Rails are in large de-and and prices firm. We quote: Welsh,

anuary, February and March delivery, at

les amounting to 40,000 tons at \$25.50, de-pered in New York.

Rails.—The business in Steel Rails has

Scrap.-We hear of sales here and to arre amounting to 1500 tons at \$35. For mediate delivery \$40 is asked, and to rive, \$35. We quote No. 1 Wrought, from rd, \$38 @ \$40.

METALS.

Copper.—The activity and upward tenency which developed in the course of 1st month, made further progress during 1se last week, and some 500,000 to 00,000 pounds Lake Superior changed ands at between 18¢ and 18¼¢—chiefly at 18¼¢. The market closes firmly at 18¼¢. 19¢, which is also the nominal value of themore. The firm attitude of the market I the facility with which these extreme ares have been obtainable, must be partly figures have been obtainable, must be partly attributed to the concentration of available supplies in a few hands. Some of the Copper expected back from Europe has arrived—about 50 tous—but has not yet been delivered. There is little Copper left in the hands of dealers. The Eaglish market has also been gradually improving, the last cable quotation being £58. 10/ for Chili Bars and quotation which, it was reported, had

\$64. 10/ for Best Selected. There is nothing f64. 10/ for Best Selected. There is nothing new from Valparaiso. "London, Sept. 20.

—The charters for the first half of the present month were telegraphed at 26co tons, which are considerably in excess of the average, and also above present requirements, and therefore must increase the burden of the market, which cannot fail to exercise an unfavorable influence on prices. On receipt of the telegram, speculators were naturally downcast, and the animated feeling which was exhibited at the earlier part of the month lie. The buyers have heard the cry of "wolf" was exhibited at the earlier part of the month at once vanished and succumbed to dullness, with a drooping tendency in prices. It would almost seem that speculators for the rise in this metal are at all times to be doomed to disappointment. According to the Board of Trade returns, the total imports and exports into and from the United Kingdom for the first eight months of the following years were

Import.	1877. Tons.	1878. Tons.	1879. Tons.
Copper in ores	10,740	8,502	8,228
cipitate	13,025	13,135	17,932
Bars, Cakes and ingots	28,944	27,023	32,31
In pyrites (estimated)	12,492	10,144	8,388
Total Exports.	65,201	58,804	66,86
English copper, wrought and unwrought	14,497	20,808	21,10
Foreign copper, unwrought	0,700	7,817	11,30
Yellow metal	11,681	10,221	11,200
			1-9
Total	35,878	38,936	43,70

According to the advices from Valparaiso the comparative exports of fine Copper from Chili and Bolivia to all parts of the world during the first six months of the following

Tons. 1873. 19,668 1874. 23,241 1875. 22,378 1876. 25,695	1878															22	14	3300	1
---	------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----	----	------	---

Manufactured Copper is firm at the combination prices. Yellow Metal Sheeting is in fair demand and steady. Sellers make an allowance of 8¢ @ 8¾¢ ₩ lb. for old Metal when new is supplied. New Sheathing Copper,24¢; Braziers, 26¢; and Bolts, 26¢; Bottoms,28¢; American Yellow Sheathing Metal, 13½ @ 15¢; Yellow Metal Bolts, 20¢, and English Yellow Sheathing Metal, 12¢, in bond.

Tin.—Our market has again advanced this week. We quote, at the close, large lots Straits, on the spot, 18½ @ 18½¢; English Common, 17½¢, and Banca, 19¢, closing strong, with an upward tendency. London cables Straits, £73.10/. Singapore has advanced to \$24.50 per picul, which is mand and prices firm. We quote: Welsh, £4. 15/@ £5.

IRON.

American Pig.—We hear of small lots No. 1 prime Lehigh Iron being sold during the week at \$30, and \$28 has been paid for fair-sized lots of the same brand. The inquiry continues very active, and we have reason to believe that some transactions larger than any that have been reported during the week, have transpired. We hear of a sale of 1500 tons Allentown No. 1, January, February and March delivery, at tanuary, February and March delivery, at 1831 and of 100 tons Gray Forge at \$27. We note nominally. Foundry No. 1, \$30 @ 1831; Foundry No. 2, \$29 @ \$50; Gray Forge, \$27 @ \$28.

Scotch Pig.—The market for Scotch are in its tone, and the arrivals since the report, aggregating about 2500 tons. ron is firm in its tone, and the arrivals since our last report, aggregating about 2500 tons, are all reported sold previous to arrival. We hear of sales of 1000 tons Glengarnock, t \$28 and of a fair business in small lots from store. We quote Eglinton, \$26 @ \$27; Hengarnock, \$27 @ \$28, and Coltness, \$29 @ \$30. Freights from Glasgow are revealed by the state of the control of the same of orted all engaged to December next at 15%.

A large business has been done during the cek in English Bessemer Pig. A sale is sported of 10,000 tons at \$26, and other alles amounting to 40,000 tons at \$25,50, declared of 10,000 tons at \$25,50, declared of 10,000

Ralls.—The business in Steel Rails has een on a large scale, the purchases pending when we last reviewed the market relating in the placing of orders, for delivery uring 1880, of 80,000 tons at \$50 at tidevater. These Rails, we are informed, were urchased for the Pennsylvania, Erie and chigh Valley railroads, and are divided amount mentioned above changed hands. The price rose later to $4\frac{1}{2}\phi$, at which figure more than 100 tons were disposed of to-day. The price rose later to $4/4\phi$, at which figure more than 100 tons were disposed of to-day, $4/4\phi$ being the closing figure, with a strong market and a tendency to higher prices, as the available stock is firmly controlled by large holders. Refined may be quoted at any Market and Steel, \$49 @ \$50.

Old Rails.—Sales are reported of 10,000 ons Old Rails, at \$30 @ \$32 for Bridge Ts and Double Heads for delivery from now to months. We quote on an active market and a tendency to higher prices, as the available stock is firmly controlled by large holders. Refined may be quoted at 4.35\psi. Mail advices from London, dated Sept. 20, state: "This market shows little change, prices being about the same as last quoted. The demand continues limited and fresh orders are very scarce." There has been no change in manufacturers' prices. We quote: Bar, 5\psi; Pipe, 5\psi; Sheet, 6; Tin Lined Pipe, 12\psi; No. 1 Solder, 10\phi—all less 10 \psi to the trade.

Spelter and Zing.—The market has re-

Spelter and Zinc.—The market has re-Spelter and Zinc.—The market has relapsed into a quiet mood, and the little transpiring is done at 6¢. Advices from the West state that, owing to a scarcity, there has been an advance on ores. We quote Refined 8¢ @ 8½¢; Silesian, 6¢ @ 0½¢, and Bergenport from Lehigh Ore, 9¢. London, Sept. 20: "Prices have not been enhanced since our last report; nevertheless, former quotations are held with firmness, owing to a continuance of a satisfactory consumers' demand. American sheet

zinc commands 71/40 @ 73/40.

Nickel.—A steady, moderate demand prevails, and is filled at \$1.25 for prime American. Antimony.—A lull has followed the late

excitement, and the market is quiet and firm at 17%.

progressed so far that the papers were nearly formed produced not the least effect upon the market. The time when the prospect of a combination will change the Coal market in any degree is past. To all ap-pearences, the talk was for the purpose of influencing the stock market. In reply to the question of what Coal was selling for, we had the answer from a leading dealer that " prices are what we can get, or a little

During the week Coal has been mostly worked off at the auction rates. In fact, worked off at the auction rates. In fact, some of the companies have continued their last month's circulars. Lehigh is still quoted at \$3.30 for Lump, \$2.50 for Chestnut, and the other sizes at \$2.60. The same prices are quoted for Philadelphia and Reading Hard White Ash. The free-burning White Ash Coals are: Broken, \$2.30; Egg, \$2.40; Stove, \$2.60, and Chestnut, \$2.40. Freights denote they much change: \$1.10 for \$1.15 is de not show much change; \$1.10 to \$1.15 is quoted to Boston; Portland is 95¢ and dis-charged, with Sound rates at 85¢ to Proviand the usual proportions for other

OLD METALS, PAPER STOCK, &c.

Old Metals and Paper Stock are in active demand, but we note no quotable change in prices since our last review.

The purchasing prices offered by dealers for Old Metals are as follows:

Copper, heavy per D. \$0.121/2 @

	6.6			
Copper Bottoms		. TO	60	
Yellow Metal	48 ID	80.	60	.08%
Brass, heavy	60	.08	60	.0836
Brass, light	9.9	.07	6	
Composition, heavy	44	.10	60	. 10%
Lead, solid	6-6	٠03	6	.03%
Tea Lead	0.6	.02 3/4		03
Zinc	0.6	.03	63	
Pewter, No. z	1.6	.10	0	
Pewter, No. 2	4.6	.06	66	.07
Wrought Ironp	r. cwt	-75	8	
Light do		.40	6	
Stove Plate	48 .	-35	60	.40
Machinery do	Sec.	.90	0	
and commer y do.		* 40	40	
The prices current fo	r Rage	. dec.	. 83	re as
follows:		,	,	-
tonows:				
Canvas, Linen	ne	m. 2	c. a	A 2860
White Cotton, New	0.0			
William County are with the second	54	4/27	- 60	

follows :	ago, ceo., are as
Canvas, Linen White Cotton, New White, No. 1 No. 2 Seconds Mixed, Woolen Soft, do Mixed Rags Liunny Jagging Jute buffs Kentucky bagging Book Stock Newspapers Waste Paper and Scraps Kentucky Bale Rope Farred Shaking Grass Rope	** 4 %C. @ ** ** 156. @ ** ** 3 %C. @ 4 C. ** ** 3 %C. @ 4 C. ** ** 2 C. @ 3 C. ** ** 9 C. @ 3 C. ** ** 9 C. @ 3 C. ** ** 2 C. @ 3 C. ** ** 2 C. @ 3 C. ** ** 2 C. @ 5 C. ** ** 4 C. @ 5 %C. ** ** 5 C. @ 5 %C. ** ** 5 C. @ 5 %C. ** ** 6 C. @ 5 %C. ** ** 7 C.

- 60	Tarred Shaking	2½c. @
1	IMPO	DTR
ŷ.	IME	
,	Hardware.	Lundberg, Gustaf.
ì	Amshow & Pangonet Mfg	Wire, coils, 227
	Archer & Pancoast Mig.	Bars, 1437 Marvel Wm. D.
,		Marvel Wm. D.
1	Mdse., pkgs., 3 Bloom, N.	Ore, tone, 423
3	Hdw., cs., x	McCoy & Co.
t	Blumenthal, A. & S.	Bundles, 741 Milliken & Smith.
1	Cutlery, cs., 2	
8	Cutlery, caks., 2	Wire rods, bdls., 527 Naylor & Co.
	Boker Hermann & Co.	Wire rods, coils, 170
θ	Hdw., cs., 98	Bars 2216
,	Charles, P. R.	Bars, 2316 Nevada Bank,
Ò	Grind'g stones, 3763	Pig, tons, 200
	Cheney Bros.	Perkins, Livingstone &
2	Machinery, cs., 2 Eddy, Geo. M. & Co.	Co.
7	Eddy, Geo. M. & Co.	Scrap, tons, 250
B	Mdse., pkge., 1	Prosser, Thos. & Sons,
8	Folsom H. & D.	Forgings, 86
	Guns, cs., 15	Sanderson & Son,
-	Furness, Bannister & Co.	Scrap, tons, 150
,	Hdw., csks., 1	Williamson Jas. & Co.
-	Graef Cutlery Co.	Pig, tons, 300
8	Mdse., pkgs., 7	Order,
i	Hermann H. & Co.	Bundles, 1019
×.	Mdse., pkgs., 92 Juillard, A. D. & Co.	Cast iron, cs., 950
,	Machinery of	moop fron, bals.,
1	Machinery, cs., 2 Livingstone, W. & F.	9908
	Grind'g stones, 365	Old iron, tons, 20
1	Manhattan Worsted	Old rails, pcs., 500 Old rails, tons, 888
>	Mills,	Old rails, tons, 888
	Machinery, os., 4	Ore, tons, 16961/2
	Merchants' Dispatch Co.	Pig tons, 1440
ì	Machinery, cs., 2	Rails, 6553
ч	Morris, H. E.	Scrap, tons, 166½ Sheet iron, pkgs., 100
8	Machinery, cs., 2	Spiegel'sen, a quan-
	Moulson John,	tity,
	Hdw., cks., 2 Mount, J. T. Hdw., pkgs., 4	Tubes, bdls., 2
1	Mount, J. T.	and the same of the
1	Hdw., pkgs., 4	Steel.
١	Overton & Co.	-
	Guns, cs., 1	Brown Wm.
. 1	Perkins & Co.	Cases, 22
	Coal, tons, 705	Cary & Moen,
1	Pim, Forword & Co.	Steel wire, bdls., 181
۱	Hdw., cs., 20	Cortis R. J.
1	Rogers Henry.	Haigh J. Lloyd,
u	Mdse., pkgs., 8 Rollins, J. G.	Bundles, 160
П	Tacks, cs., 9	Naylor & Co.
1	Schuyler, Hartley &	Steel scraps, lds., 52
1	Graham.	Saunders Bros.
	Guns, cs., 5	Steel blooms, 19
1	Mdse., pkgs., 6	Woodford W. O.

Naylor & Co.
Steel scraps, lds., 5
Saunders Bros.
Steel blooms, 19
Woodford W. O.
Bars, 40
Bundles, 234
Cassa. Guns, cs., 5 Mdse., pkgs., 6 ompson John, Hdw., cs., 1 Hdw., cs., 1
Tillotson L. G. & Co.,
Galv. wire, lots, 199
Ward, Alsine,
Mdse, no. Cases, 3 Cases, 3 Order, Bundles, 90 Casks, 34 Packages, 34 Steel blooms, 18 Mdse., pkgs., 3 Whyte, A. Hdw., cs., 1 Wiebusch & Hilger Hdw. Co. Cutlery, hdw. and per. caps, pkgs., 3 Witte J. G. & Bros.

Metale.

Albro Henry & Co.
Old brass, csiks., 13
Balbach E. & Son,
Lead, bars, 675
Cortis R. J.
Tin, bres, 757
Crossman W. H. & Bros.
Tin, ingots, 310
de Planque Emile,
Mdsc., pkgs., 4
Foote Emerson,
Nickel and alloy,
bxs., 26 Mdse., pkge., 1 Wolff, H. & Co. Mdse., pkgs., 2 Woodford W. O Grindstones, 36 Order, Coal, tons, 155½ Cutlery, cs., 5 Furnaces, cs., 8; Hdw., cs., 1 Hdw., pkgs., 7 Nickel and alley,
b.xs., 26
Francklyn C. G.
Tin plates, bxs., 74
Irwin Richard & Co.
Regulus antimony,
esks., 21
Maun G. A.
Metal, esks., 2
Meyer G. A. & E.
Zinc oxide, bdis., 350
Phelps, Dodge & Co.
Tin plates, bxs., 4545
Black tag., es., 282
Order. Iron. Cooney, D. T.
Old fron, tons, 54
Brexel, Morgan & Co.
Bessemer pig, a
quantity.
Pig, tons, 110
Fossick, W. G.

EXPORTS

Of Hardware, Iron, Machinery, Metals, Ac., from the Port of New York, for the Week ending September 30, 1879:

Dutch West Indies. Quan, Value Quan. Value.

| Ag. imp., pkgs 12 |
| Ftlm. gals...4,866 |
| Hdw., cs... 36 |
| Glassw'e, cs.. 53 | Ptlm., gals...2,875 \$298
Nails, kegs... 9 36
Tinware, cs... 9 198
Nails, bzs... 9 153 Triente. Sew. mach., cs 6 Mf. iron, pkgs 11 Ptlm., gals. 843,778 67,630

Cuba. Cuba.

Mf. iron, pkgs 216
Port, railroads 2
Slate, bdls... 60
R R m't 18,pg85420
Mf. cop., pkgs 36
Mach. oil, bbls 8
Nails, kegs ... 268
Ag.imp.,pkgs... 37
Sew. mach. cs 149
Reflectors, cs... 3
Grindstones... 10
Railroad bars, 2186
Mach'y, pkgs. 2114
Copper flues... 150
Iron, sheets... 59
Belting. cs... 59 Bremen. Dutch East Indies. Ptlm., gals.813,570 83.710 Hamburg. Hamburg.
Slates, cs. ... 70 375
Ptlm., gals, 276, 388 22, 450
Glassware, cs. 231 1,554
Knit. mach., cs. 11 1,575
Hdw, cs. ... 120 2,738
Silverware, cs. 1 394
Sew. mach., cs. 864 12,050
Guns, cs. ... 2 210
Pitdware, cs. ... 4 477
Slate, pcs. ... 53,650 2,000

Guns, cs..... 2 Pltdware, cs... 4 Slate, pcs...53,610 Lea belting, cs. 10 Hayti. Antwerp. Ma. oil, gals... Glassw'e, cs... Iron, pkgs... Tacks, cs... Ptlm., gals.717,160 48,300 Rotterdam. Ptlm., gals. 362,066 24,352

Copper, pkgs. 2 Rifles, cs.... 1 Iron, bdls... 20 Cork. Ptlm., gals.493,143 37,817 United States of Co-Dublin. Ptlm., gals. 123,725 8,661 Landonderry. Ptlm., gals. 150,992 10,569 British East Indies. Ptim., gals.252,000 25,200

Ag. imp., pkgs Canada. Steel, bdls.... 5 British North Amer-ican Colonies. Pltdware, cs. . 1 Shot, bags... 8 Japan. Sew. mach., cs 7 150 Coal, tons... 425 1,031 Chain cable... 1 200

British Guiana. Ptlm., gals. 5000 450 Dunkirk. Hull. Ptlm., gals.146,364 10,000 Sew. mach. cs 62 Ag. imp.,pkgs 3 Slates, cs..... c9 lidw., cs.... 17 Pumps, pkgs. 2 Havre.

Bristol. Mf. iron, pkg. 1 Slate, cs..... 5 London. Rouen. Ptim., guls. 194,506 15,074 Seville. Ptim., gals, 60,000 5,400 Valencia. iron, pkgs 11 Ptlm., gals. 121,164 10,050 Figo. Mach'y, pkgs Mach'y, cs... Ptlm., gal. . . 44,800 3,920 Africa.

Liverpool. Mf. iron, pkgs 24 1.477
Hdw. pkgs... 147 5.758
Ox zinc, bbis. 50 348
Sew. mach, cs. 188 2.co7
Plidware, cs. 3 450
Sandpaper, cs. 3 240
Mach y, pkgs. 7 478
Ptlm., gals.276,836 19,750
Slates, cs. ... 2 39 kegs.... 88 cs.... 9 Nails, kegs... 88
Hdw., cs... 9
Bells... 3
Brass kettles. 2 45 66 Central America. Mf. iron, pkg. 1 50 Cutlery, cs... 4 178 Ptim., gals... 250 24 Glasgow. Dedeagatch. Prim., gals.107,400 8,592 Ox zine, bbls. 100 1,200 Sew. mach., c5 102 1,417 Mach'y, c8... 2 6,20 Hdw., c6... 22 2,750 Glassw'e, pgs. 10 250 Shoe nails.pgs 13 205 Beltiug, case. 1 280 Slates, c8... 2 56

Argentine Republic.
| Glassw'e, cs. . | 120
| Sew. mach., cs. 24 | 612
| Hdw., cs. . . 222 | 3,750
| Shoe nails,pgs | 13 | 205
| Slates, cs. . . | 50
| Mf. iron, lbs.15,533 | 7,563
| Riffes, cs. . . | 50
| Railroad cars. | 7 | 5,775 French West Indies. Sew. mach, cs z4 z43 Mf. iron, pkgs 6 69 Tinware, cs... 3 45 Ag. imp.,pkgs 5 50 Glassware, pgs 5 35 Pitdware, cs... 1 26 Venezuela. gals...9,763 1,087 ire, cs... 6 249 Copenhagen. Sew. mach., cs. 4
Mach'y, cs. 10
Mais, kegs. 10
Cutlery, cs. 1
Hdw., cs. 11
Hdw., cs. 11
Mctal g'ds, bx 1
Shoe nails, bxs 16
Glassw'e, os. 11 Mf. iron, bxs. 4 167 Hdw., bxs... 2 41 Cop.plates.cs. 78 9,203 Lub. oil, gals.1125 275 British West Indies Ptlm. gals. 29,736 2,754 Hdw., cs. . . . 60 1,043 Mf. iron, pkgs 18 124 Glassw'e, cs. . 72 406 Nails, kegs. . 177 675 Sew. ma., cs. . 9 Leghorn. Ptlm., gals. 279,600 19,571 Brazil.

PHILA DELPHIA.

Cutlery, cs. . . 31 988 Powder, kegs.

Office of The Iron Age, 220 South Fourth St. PHILADELPHIA, October 1, 1870. Edward Samuel & Co., Philadelphia, Edward Samuel & Co., Philadelphia, have been appointed sole agents for the sale of the produce of the Lancaster Rolling Mill, which has just been put in operation after lying idle for several years.

Justice Cox, Jr., & Co. have been appointed sales agents for the Keystone Furnace under its new organization.

The Panneylyania Iron Company, Lington

The Pennsylvania Iron Company, Limited, is the name of a new organization of Philadelphia capitalists who have commenced operations in Lancaster, Pa.

Pig Iron.-The market continues its upward course, although the advance is less pronounced than during one or two preceding weeks. There is no falling off in the demand however, and whatever restriction there may be is due solely to the limited supplies The advance in prices during the last six months has been of an extraordinary character, but the feeling is daily becoming more confirmed that present range of values is safe, and will likely be exceeded before der, Antimony, caks., 34 Copper, caks., 90 Lead pigs, 1000 Tin, ingots, 1334 Tin plates, bxs., 8080 Yel, metal, cs., 125 the close of the mouth. Ordinarily some reaction would be quite natural, but one class of buyers no sooner gets supplied at high prices, than others come in and lift

pears to-day, higher rates are far more probable than the reverse. The great strength of the market is due to purchases on Western account. Stocks in the Western States appear to have been completely exhausted, and as very few of the furnaces in that direction are in a condition to be put into immediate operation, the demand is nrgent and continuous. There is an impression of the condition of the English market and heavy shipments to this country, it is believed that the interests of all concerned will be best served by following a conservative policy. In the meantime, we quite Best Refined Bars 3\$\phi\$ @ 3.2\$\phi\$, the latter a somewhat exceptional figure. sion, however, that the furnaces are manipu-lating matters in a way which compels consumers to be in the market from week to week, and thus keep prices in a constant condition of excitement. We do not assert condition of excitement. that such is the fact, but it is claimed that, instead of delivering metal to parties who bought early in the spring, buyers at the current rate have the preference. For instance, a certain company may be producing 500 tons per week, all of which to the ing 500 tons per week, all of which to the closs of the year is under contract at low prices. The buyer may really require weekly deliveries in order to fill the con-tracts for Finished Iron, but the furnace claims inability to deliver more than half the amount agreed upon, unless by extending the time, while it is claimed that new buyers who are prepared to pay several dollars per ton advance have very little difficulty in placing their orders. This operation compels parties who covered at low prices during the early part of the year, to be steady whatever rates may be curren buyers at from week to week, in order to supply the deficiency caused by curtailed deliveries on previous contracts. In case of a decline in prices at an early date, this course would be very unfair to the consumers; but if the market keeps on advancing, the additional purchases on a rising market would practically amount to a decided advantage. The point is, not that the furnace companies are trying to evade their contracts, but rather to force an immediate demand at high prices, which might not be possible if prompt deliveries were made on contracts running at low figures. The importation of foreign material has assumed important proportions, and if prices are going to be maintained, the present extraordinary consumption will have to be maintained also. Any falling off in this respect would be quickly felt in Pig Iron, and at the present high figures there is plenty of room for a very serious decline. This is one of the possibilities in the not very distant future, although at the moment the outlook seems to be in all respects healthy and encouraging. Prices are be lieved to be quite high enough now, and any addition thereto would in all neabhility. addition thereto would, in all probability addition thereto would, in all probability, precipitate a reaction. We quote No. I Foundry \$30 @ \$32; No. 2, \$28 @ \$29; Gray Forge, \$27 @ \$28; Gartsherrie, \$27.50 @ \$28; Glengarnock, \$26.50 @ \$27; Eglinton, \$25 @ \$26.

Blooms.—There is a good deal of inquiry but manufacturers are sold close up, and it is almost impossible to place orders of any amount. The quotations now given are, therefore, almost nominal as follows:

Sunken Scrap Blooms (2464 B), \$44 @ Sunken Scrap Blooms (2464 B), \$44 @ \$45; Northern Ore Blooms (2240 B), \$39 @ \$43; best quality Charcoal Billets (2240 B), for wire and steel purposes, \$64 @ \$66; Bars, \$68.50 @ \$71; Sheet Iron Blooms, cornered (2464 B), \$59 @ \$61; Cold-blast Charcoal Plate Blooms, \$58 @ \$60; run-out Anthrapita, \$1, @ \$23.50 Anthracite, \$51 @ \$53.50.

Mnck Bars.—Buyers are in the market at \$42 @ \$43, but we have not heard of any sales as there are no offerings. We understand that \$45 is about the figure at which foreign Bars are quoted for Philadelphia de-

Structural Iron.-There seems to be an increasing demand, and prices during the week have been advanced \$3 to \$5 per ton. The requirements for building and similar purposes promise to be very large, and there is no doubt that manufacturers and there is no doubt that manufacturers will find themselves fully occupied during the balance of the year. This department of the Iron trade is one of much perplexity, however, as contracts generally extend a long way into the future, and it is very difficult to quote prices for work to be delivered several months to come. It is almost impossible to buy material at reasonable prices, besides which there are other elements of uncertainty that make the business one of unusual risk. In the meantime, for present delivery we quote: Angles, 3.3# @ 3.5#; Beams, Channels and Tees, 3.8# @ 4#.

Sheet Iron.—We have again to report

the end of the season. The following fairly represent the rates quoted to-day, viz: Common Sheet, No. 20 to 23, 5.0\$\phi\$ (6.1\$\psi\$; No. 24 to 28, 5.2\$\psi\$; Best Refined Sheet, No. 25 24 to 28, 5.2¢; Best Refined Sheet, No. 25 to 28, 5.3¢ @ 5.4¢; No. 16 to 24, 5.2¢ @ 5.3¢; No. 25 to 28, 5.4¢ @ 5.5¢; Refined Plates or Blue Annealed, 5-16 to 16, 3.8¢; 17 to 19, 4.0¢; Best Bloom, 26 to 28, 7.0¢; 16 to 24, 6.8¢ @ 6.9¢; Best Bloom, 6.8¢ @ 7.0¢. A Patent Planished, 10½¢; B Patent Planished, 10½¢; B Patent Planished, 10½¢; Bost Blooms, Galvanized, 20 % discount; second quality, 30 %.

Rar Iron -There has been an advance during the week equal to about \$5 per ton, which seems to have had the effect of giving new strength to the market. The demand is active and urgent, and there is no difficulty in placing large quantities of Bars at 36 which is the nominal rate, although we hear of higher figures being paid in several instances. Business is in a very feverish condition, however, and the position is not by any means satisfactory to manufacturers. Prices of material, labor, &c., have been advanced so rapidly that the cost has been seriously increased, and if the market becomes glutted and prices decline, it will be a diffi-cult matter to re adjust cost of production to a somewhat lower scale of prices than are a somewhat lower scale of prices than are an advance of 10¢ per ton additional for now current. If there was a certainty of every tenth advance in iron, according to values being maintained, there would be not the sliding scale. The opposition to the adreason for complaint, and although matters vance came from those who have a good look quite promising at the moment, the fumany low-priced orders, booked some time opinion is generally indorsed by manufac-turers, who fully realize that, while an advance in selling prices may be only tempo-rary, labor and other items cannot be changed without considerable difficulty. If

them still further, and, as the market ap- the advance proves to be permanent, as pears to-day, higher rates are far more seems quite probable, there is little doubt probable than the reverse. The great that labor will command its full value, but

Steel Rails .- As intimated in our la ome heavy transactions have taken pla during the week, with others still pendin Prices are quoted \$50 to \$52, according location of mill, but something like 100,0 tons have been taken at \$48 to \$49, but the circumstances were somewhat exceptional. The demand is more than equal to the supply, and, with higher prices in the English market, it is likely that the above quota market, it is likely that the above quota-tions will remain as inside rates. Manufac-turers appear to be following a liberal pol-icy in leaving a margin of several dollars per ton from the figures at which Steel Rails may be imported. The cost of production has increased considerably, and there is rel-strictly up more margin to the producer than atively no more margin to the producer than at this time a year ago.

Iron Rails .- Owing to the advance in material, &c., manufacturers have been compelled to advance their quotations, and it is doubtful if orders could be placed below \$45 to \$46 at mill. These figures, however, for the time being curtail business, and very few orders are in the market at these rates. Foreign Rails were offered a week ag at \$42, but there has been an advance of tw to three dollars, which nearly equalizes mat ters. Buyers are not numerous, but as there is plenty of work on hand, manufac-turers are quite willing to wait further developments. The steady and continuous advance in material renders it unsafe to enter into contracts unless at higher price than buyers are prepared to give at present, so that business will probably remain in a state of abeyance until material is cheaper or the manufactured article saleable at higher figures. Sales of light sections are reported at \$48 at mill, and streets at \$50.

Old Rails.—The unsettled and irregular ondition of the market still prevails. condition of the market still prevails. As intimated in our last report, there has been a further advance during the week, and sales have been effected at \$30, \$30.50 and \$31, with the outside figure asked, and which will probably have to be paid for early de liveries. The quantity of rails afloat for this liveries. The quantity of rails afloat for this market is very large, and under heavy offerings the market seems to sag off for a day or two, but they are soon taken, and if sellers withdraw for a day or two, prices take a fresh start and are quoted higher than ever. How long this state of things will last it is impossible to say; ordinarily a heavy reaction might safely be predicted, but byvers appear to gather fresh courses with buyers appear to gather fresh courage with every advance, so that it is impossible to in-dicate what will happen in the immediate

Railway Spikes-Are in active demand

Scrap Iron.—The market has been completely cleared of stock, and \$28 @ \$30 is readily obtainable for Wrought, and \$18 @ \$20 for Cast.

Nails.—The market is firm, and \$3.25 is an inside figure. Orders for large quantities not accepted at present.

PITTSBURGH.

Office of The Iron Age, 77 Fourth Avenue, Pittsburgh, Pa., September 30, 1879.

One of the most gratifying results of the ecent improvement in business is that labor s beginning to feel its effects. The advance in the card for Manufactured Iron to 3¢, increases the pay of the puddlers to \$5.50 per ton, and the pay of the rollers, according to the sliding scale, is advanced proportionately. We also hear of a number of companies and firms having advanced the pay of their employees unsolicited, and a much more cheerful feeling prevails in conse-

Pig Iron.-The market for Mill Iron has been less active the past week, but a further advance of \$1.50 @ \$2 ?? ton has been established, and, with a very limited supply, the offerings are small, and the tendency continues upward. There is more inquiry just now for Red Short than for either Neutral or Cold Short, with which the mills as Sheet Iron.—We have again to report an active demand, under which prices show a very material advance. Requirements seem to be out of all proportion to the 'capacity of supply, and it is not unlikely that increasing, and they have advanced more much higher figures will be quoted before the capacity of the proportion to the 'capacity of supply, and it is not unlikely that increasing, and they have advanced more during the week than Forge Irons, with a capacity of decirable qualities. scarcity of desirable qualities. Bitumir Coal-smelted Irons from Lake Superior ores may be quoted at \$30 @ \$33, 4 mos., for Foundry, and \$28 @ \$30 for Cold Short to good Neutral Mill; a strictly No. 1 Red Short, which is very scarce, would, we doubt not, bring \$31 @ \$32, or even more. No sales of Bessemer; a lot of No. 1 was offered the other day from the Valley as No sales of Bessemer; a lot of No. 1 was offered the other day from the Valley at \$35, delivered here. Coke Iron from native ores, \$28 @ \$30, 4 mos., for Mill, and \$29 @ \$31 for Foundry. The supply of Hanging Rock Charcoal is almost exhausted; Foundry. dry, \$33 @ \$35 for Hot Blast and \$38 @ \$40 for Cold Blast. Manufactured Iron .- The chief event

the past week was the meeting of the Western Iron Association, which was well attended. The most important business transacted was advancing the card from 2½¢ to 3¢. There was considerable discussion in regard to the card. A large number advocated an advance to 3¢, others ber advocated an advance to 3\$\psi\$, others wanted to have the card remain at 2\frac{1}{2}\psi\$, and others to advance it beyond 3\$\psi\$. Finally, 3\$\psi\$ was agreed upon. This action carries with it an increase of the wages of puddlers, rollers and heaters-the puddlers receiving one of much uncertainty, and it ago, and who do not like the idea of having would be very unsafe to predicate upon to pay increased wages, but it was an act of higher prices in the immediate future. This justice to the puddlers, rollers, &c., as but few weeks ago, the mills are well supplied with orders, and it looks very much as if they would have all they can do until the close of the year.

\$20; Old Car Wheels, \$19 @ \$20. and Wrought Scrap are very stiff tions, with advancing tendencies.

Nails.—There has been a further advance in Nails by the Western Association, which met here last Friday, having put the card met here last Friday, having pur the up to \$3.40, 60 days, 2 per cent. off for cash and an abatement of 10 cents per keg on the of 200 kegs and upward. This is an adand an abatement of 10 cents per keg on lots of 200 kegs and upward. This is an advance of \$1.50 per keg since last May, when the market was dull at \$1.90, notwithstanding the latter figure, under the most favorable auspices, did not more than cover actual cost of production.

Horse and Mule Shoes-Are still in fair emand, but prices remain unchanged. 100keg lots, \$3.50 and \$4.50, cash.

Railway Spikes—Continue firm, with no apparent abstement in the demand, at 3¢, o days, for immediate, and 3¼ for future

Wrought Iron Pipe.—We continue to quote 35 % off on lots of 10,000 feet and upward, and 40% off in a jobbing way. Boiler Tubes, 40% off, an advance; Oil Well Tubing, 22¢, net; do. Casing, 80¢.

Steel .- The demand for all kinds of Mer chant Steel continues quite active. The largely increased movement in Iron does not appear to have affected that of Steel, and Steel manufacturers have no reason to com-plain, except that prices are being shaved closer than they ought to be, or there is any necessity for. Old Iron Rails continue very scarce, and prices have gone up still higher. We now quote, in the absence of sales, at \$33 @ \$35. The fact that a good many are being relaid on new narrow gauge oads and sidings has increased the demand and thereby assisted in the rapid advance

Scrap.-The market for all kinds of Scrap on continues firm, and, with light stock nd an increasing demand, prices are still ending upward. Old Car Wheels may be tending upward. guoted at \$30 @ \$31, gross; No. 1 Wrought Scrap, \$29 @ \$30, net; Car Axles, \$32 @ \$33; Car Springs, \$30 @ \$31. Stocks are much reduced.

Window (1)ass .- The most discouraging eature to our manufacturers is the spirit of unrest manifested by their skilled workmen who feel that they ought to have more money for their services, and there have There is a very fair and increasing business, and the indications are favorable for a good fall trade. The only discouraging feature is the one referred to, and it is a serious one. Discounts remain the same as noted in our report of last week.

Coke.—There is no apparent abatement in the demand. Prices remain unchanged, ranging from \$1.20 @ \$1.30 per ton, de livered free on cars at oven

Coal.-Navigation continues suspended. and there is not much prospect of an early resumption. There has been but one Coal resumption. There has been but one Coal "run" since last spring, and the consequence is that while the stock here in first hands affoat has accumulated until it is very large, supplies in the down river markets, New Orleans excepted, are very much reduced, and prices have advanced at nearly all points. The last Coal affoat at Cincinnati was sold a couple of weeks are at 10c. an advance of 3c. 60. of weeks ago at 10¢, an advance of 3¢ @ 4¢ per bushel as compared with last spring. Shipments by rail continue large, having been stimulated by the long suspension of navigation, and the consumption this fall and winter will be much larger than for some years past, owing to the starting up of so many factories, furnaces, &c. Petroleum.—The market has been con-

retroleum.—Ine market has been considerably excited the past week, not only in the producing regions, but here also, and while prices continue unsettled and irregular, the feeling is firmer, and there are those who have considerable faith in the article who have considerable faith in the article. One wealthy Pittsburgher is reported to have made a purchase at Oil City of 1000 barrels, and we hear of another lot of 115,000 barrels having been taken by another buyer. There may be a "boom" in Oil, but we can see nothing in the situation to warrant any material advance except speculation. The production continues large

CHATTANOOGA.

Office of The Iron Age, Market and 8th Sts., !

Almost everything—but especially manufactured articles—is moving in sympathy with the sharp and sustained advance in Iron. There is not a factory of any kind in this district but what is pushed with orders, and all, from the smallest cotton mill or sawmill to the biggest Iron mill, are discussing enlargements and putting on all possible pressure to meet present demands. The wage of labor has sympathized with the im The pressure proved market, and employers have comproved market, and employers have come up with liberal advances to all hands. We find the making of any but approximate quotations difficult. The market is jerky on account of barrenness of stocks. The Iron that is delivered one day on an order three days old may be, and often is, worth a sharp advance on the price paid. The same rates will seldom hold for more than a single day. Furnacemen and mill managers will pos-tively not book orders ahead for any tin at all, and they have learned that it is safest anticipate a rise in the quotations fur-shed. This keeps the market in an excited state, in which every dealer is a law unto

Pig Iron.-We advance our quotations on Pig Iron.—We advance our quotations on some grades, and if we were governed by isolated transactions, might make still other advances. Coke Irons—No. 1 Foundry, \$21 @ \$25; No. 2, \$17 @ \$20; Gray Forge, \$19 @ \$20; White and Mottled, \$16 @ \$17. Hot-Blast Charcoal—No. 1 Foundry, extra, \$22 @ \$26; ditto, \$20 @ \$22; No. 2 Foundry, \$17 @ \$20; Gray Forge, \$17 @ \$20; White and Mottled, \$16. Cold Blast Charcoal—Car Wheel Metal. \$22.50 @ \$27.50: do. Extra

and Wrought Scrap are very stiff at quotations, with advancing tendencies.

Ores.—Brown Hematite, 50 to 56 %; per ton, \$1.75 @ \$2.25. Red Fossiliferous, 50 @ 56 %; per ton, \$1.20 @ \$1.60. The above prices for ores delivered in Chattanooga on cars or on the wharf from flat boats. 50

Nails.-We quote at \$3.50 rates, being an advance of 50¢ on last week's rate, and the mills not at all anxious to sell. The quota-tion only indicates the state of the market. The mills have no stocks, and there is no attempt of the Northern or Eastern mills to sell in this district, nor in any of the territory heretofore tributary to Southern factories.

Manufactured Iron-Has advanced in sympathy with Pig, those articles most in demand showing the sharpest rise in price. Railway supplies have gone up faster than other articles, showing special activity in railway business, both in repairing and build ing. We quote for Iro 1 at \$3.25; Rauroau Spikes, \$3.25; Track Bolts, \$4.25; Trestle Bolts, \$4.50.

Coke.-We quote 10¢ per bushel for Washed Foundry. Furnace at \$2.25 per ton on cars in Chattanooga.

Coal.—There is a slightly stiffening ten-dency in the Coal market, stimulated by the preparations to open new enterprises, which will depend on it for fuel, but no advance has been established or seriously entertained. The better opinion seems to be that no con siderable advance, in view of the number of new mines being opened, will be possible.

We quote: Best household Coals, strictly lump, at 12½ @ 14¢, delivered. Run of mine to manufacturers, \$1.25 @ \$1.75 per

Pig Lead-5¢; Ingot Copper, 19¢ 1ron Rails.—The mills here and at At-lanta are not booking orders, being behind and running full to catch up. We quote 35-lb. Rails at \$45 @ \$47, and larger sizes at \$42 @ \$44 per ton

Steel Rails.—We quote at \$47 at mill. and no supply for transient buyer

ST. LOUIS.

St. Louis, Mo., Sept. 29, 1879. The demand for Iron continues good, with little offering. We quote to-day as follows

Hanging Rock	30.00 @ 35.00
COKE AND COAL,	
Missouri	None offering
Ohio River, No. 1	28.00 @ 30.00 28.00 @ 30.00 28.00 @ 30.00
No 2 and Mill \$1 to \$2 per ton less.	20100 @ 30100
COLD BLAST.	
Missouri	35.00 @ 38.00
TRON ORE.	
Iron Mountain	6.50 @ 5.75 @ 6 50 8.00 @
OLD RAILS AND CAR WHEE	La.
Rails	30.00 @

BOSTON.

SEPTEMBER 21.—Nothing like the present activity in this market for Iron has been seen before since 1872, and not only have all the stocks of every kind that have been accumulating since 1872 been swept up clean, but the gap between production and consumption is becoming as wide that there will sumption is becoming so wide that there will probably be very little American Pig Iron offering before the 1st of January. Buyers offering before the 1st of January. Buyers who are in pressing need are compelled to pay extreme prices, and as most makers of Iron have large engagements ahead, and are not disposed to commit themselves further until the future of the market is more clearly until the future of the market is more clearly defined, it is difficult to give precise quotations. To-day's prices are more or less nominal, especially for Forge Iron. Freights to Boston are strong at \$1.40 \$\overline{\text{P}}\$ ton, and are tending upward. We quote spot lots of American Pig at \$30 for No. 1 X, and \$29 for No. 2 X. There are many who now hold that the advance in Iron has been too large and too rapid to be healthy but a conhold that the advance in Iron has been too large and too rapid to be healthy, but a con-siderable majority of New England consum-ers discounted the present advance some months ago, and supplied themselves with sufficient stocks of material for an emergency. It is certain that the present con-sumption of Iron is larger than before in some years, if, indeed, it is not unprecedented. Scotch Pig is also scarce and wanted, and although considerable is on the continues to advance, and we raise quotawanted, and although considerable is on the two way, it is nearly all sold. Although the rise in Scotch Iron has been considerable, it has not kept pace with the domestic product. The last cable advised a further advance of 3/W ton, and we quote \$26 for Eglinton, No. 1 Hanging Rock, Charcoal\$20.00 @ 20.00 3/ g; ton, and we quote \$20 for Eginton either spot or to arrive; \$27.50 @ \$25 for Gartsherrie, and \$29 @ \$30 for Coltness The market is bare of spot lots of the two latter brands. Old Rails.—There have been sales of 2000 tons Old Rails on the spot at \$34, and 1000 tons of English Rails to arrive at the same figure. rive at the same figure. Sales of 3000 ton Old Car Wheels at \$26 are reported in ou Old Iron market. Manufactured Iron of al kinds continues in active demand, and very little Merchant Bar is available except from little Merchant Bar is available except from the stores at 3¢ \$\partial\$ for large lots and \$3\fomale \text{in}\$ a retail way. Plate and Tank continue well sold up, and to-day's mill prices are firm at \$3\fomale for Tank; \$3\fomale for C. M. No. 1 \$\fomale fomale foma tive, and prices have advanced to 81/2 @ 0 of for Nos. 14 to 20; 91/2 for Nos. 20 to 24; 9¢ for Nos. 14 to 20; 9½¢ for Nos. 20 to 24, 10½¢ for Nos. 25 and 26; 13¢ @ 14¢ for Russia perfect, and ½c. less for do. No. I stained. Steel is in good demand from promptly adopted here as a matter of course; still, as orders were not solicited at

Old Rails at quota-at quota-and Crucible do. at 6¢ @ 7¢. Copper.— The speculative movement in this metal has continued. There was a sale of a spot let of 20,000 lbs. here Wednesday forenoon at 17/2¢, and yesterday a New York offer was 17/3, and yesterday a New York offer was received here of 18/2¢ for 100,000 lbs., which was refused on the ground of reported sales at 18/2¢ @ 19¢. The latter need confirmation; and there is far from being a full feeling of confidence in the stability ity of the advance which has thus far been ity of the advance which has thus far been made. But the approaching close of navigation, the general upward tendency of values, and the control by a syndicate of some 8,000,000 lbs. of the mining companies' production up to the 1st of Januasy, are given as an explanation of the present advance. The price from the Boston stores has been advanced to 1816 and the degiven as an expanation of the present aureance. The price from the Boston stores has been advanced to 18½¢, and the demand from consumers is increasing. The combination prices of manufacturers were advanced 2¢ ½ h on Monday, and we now quote: Copper Sheathing, 24¢; Braziers, 26¢; Bolts, 26¢; Bottoms, 28¢; Amarican Yellow Metal Sheathing, 14¢ @ 15¢, and English do., 12¢ @ 12¼¢, in bond. Antimony has advanced about 4¢ ½ h since our last, on account of the light supplies both here and abroad, and we quote 12½¢ at the present writing. Lead has assumed a firmer tone, and though very little business has been done, there is no stock available under 4¢, and some holders are asking 4.1¢. Smaller lets from store are quoted at 4½¢. Manufactures are unchanged, and we quote: Lead Pipe, 5½¢; Tin-Lined Pipe, 12¢; Bar Manufactures are unchanged, and we quote: Lead Pipe, 5½¢; Tin-Lined Pipe, 12¢; Bar Lead, 6¢; Sheet Lead, 6¢; Block Tin Pipe, 30¢. All of these are subject to the usual trade or 10 % discount. Spelter is quiet and steady at 6¢ for car-load lots, and 6½¢ @ 7¢ for smaller lots from store. Sheet Zinc is in good demand at 8¢ @ 9¢ ₽ b. Tin is quiet and without material change, quoting at 17½¢ @ 17½¢ for large lots of Straits. Smaller lots as below: We quote: Straits, 17½¢ @ 18¢; Banca, 20¢ @ 21¢; English L. 7/5/¢ @ 18¢; Banca, 20¢ @ 21¢; English L. & F., 16½¢ @ 17½¢. Tin Plates are in fair demand and prices are firmly sustained, quoting Charcoal I. C. at \$6.50 @ \$7; Coke at \$5.20 @ \$6, and Charcoal Terne at \$6.25 @ \$8.—Commercial Bulletin.

CINCINNATI.

Messrs. E. L. Harper & Co., under date of Sept. 27, write as follows: The demand is again increasing, as buyers become satisfied there is no chance for lower prices.

Every day develops more or less advance, and sellers uterly refuse to leave prices open even for 24 hours. The market is almost completely bare of Stonecoal and Coke 130.00 130.0 Messrs. E. L. HARPER & Co., under date for the present and future, causes considera-ble apprehension for a decided scarcity of good Iron. Car-wheel and Malleable Irons good Iron. Car-wheel and Malleable Irons are exceedingly buoyant, and will probably advance rapidly until considerably higher figures are reached. Blooms and Old Raila are in very light supply to-day, and most of the bloomaries are sold largely ahead. The report of the advance made Friday at Pittsburgh, of Bar Iron to 3.10¢, and Nails to \$3.40, is encouraging.

	HOT-BLAST FOUNDRY.
١	Hanging Rock C. C., No. 1
1	C. C., NO. 2 32.00 @ 33.00
1	Virginia Coke, No. 1 31.00 @ 32.00
1	
1	Alice Coke, No. 1 32.00 @ 33.00
1	
1	Fannie, American Scotch 30.00 @ 31.00
1	Hocking Valley S. C 30.00 @ 31.00
1	Court No. 2 29.00 @ 30.00
1	Southern Coke No. 1 30.00 @ 31.00
1	No. 2 28.00 @ 30.00
1	Ohio Stone.Coal. No. 1
ı	No. 2 27.60 @ 28.00
I	Open Silver Gray @ 30.00
1	FORGE IRONS,
I	Hanging Rock, No. z C. C @ 30.00
ŧ	Coke 29.00 @ 30.00
1	Longdale, No. 1 CokeNone offering.
ı	S. P., No. 1 Coke
ı	Ala, and Tenn., C. C
ſ	Ala, and Tenn., C. C
ı	Cold-Short No. 1
I	Old Car Wheels, cash None offering
ı	Old RailsPecham's Pat. Refined Steel Blooms. 60.00 @
ı	Pecham's Pat, Refined Steel Blooms, 60 co @
l	" double hammered 65.00 @
ı	CAR WHEEL AND MALLEABLE.
ı	
ı	Hanging Rock C. B 38.00 @ 40.00
ľ	Southern and Western Brands 37.00 6 39.00
ì	Lake Superior 35.00 @ 30.00
I	Salisbury 45.00 @ 47.00
ı	TOTILOUTE TO

LOUISVILLE.

Messrs. GEO. H. HULL & Co., under date of

	FOUNDRY IRONS,		
1,	1 110. I MANUELLE MOUNT CHIEFCOURT	29.00 @	30.0
)L		28,00 (0)	20.0
B.,	No. 1 Southern, Charcoal	28.00 @	20.0
0	No. 2 11 11		
	No. 1 Hanging Rock, Stonecoal and	27.00 W	2010
n	Coke	28,00	29.0
t	No. 2 Hanging Rock, Stonecoal and		-
٠	Coke	97.00 @	28.00
8	No. 1 Southern, Stonecoal and Coke	27.00 63	28.00
8	No. 2 44	26,00 (4)	
r	"American Scotch"	26.00	27.00
	Cilvon Cinar	20,00 (1)	20.00
1	Silver Gray	25.00 @	30,00
y	MILL IRONS.		
n.	No. 1 Charcoal, Cold-short and Neut'l.	27.00	28.00
é l	No. 1 Stonecoal and Coke, Cold-short		
	and Neutral	25.00	27.00

No. 2 Stonecoal and Coke, Cold-short and Neutral.... CAR WHERL AND MALLEABLE IRONS.

W. B. BELKNAP & Co., Iron and Steel merchants, Nos. 113 and 115 West Main street, under date of Sept. 29, write as follows: The condition of the market is somewhat unsettled. Advances have taken place so rapidly and have been no well maintained that scarcely any change in that direction can be said to be improbable. When Cin-





The demand for Scroll Saws has become so large that most Hardware dealers are getting in the way of keeping them.

The trade commences in early fall and lasts all winter, thus helping business in the dullest season. There is probably not a Hardware store in the land but that could sell

dullest season. There is probably not a Hardware store in the land but that could self some of these goods.

We are headquarters for hand and foot-power Saws, Saw Blades, Wood, Designs and all things pertaining to this business. The Lester Saw at \$8 and Rogers Saw at \$3 are now in universal demand. The Lester Saw consists of a Scroll Saw, Circular Saw, Drilling Attachment, Emery Wheel, Dust Blower, Turning Lathe and Tools, extra Saw Blades, Drill Points, Designs, Screw Driver, Wrench, &c. It has been greatly improved since last year, and is a very perfect machine. The Rogers Saw consists of a Scroll Saw, Drilling Attachment, Dust Blower, Designs, Drill Points, Saw Blades, Wrench, &c. The Saws are nicely boxed, without extra charge. We warrant them in all respects. They give dealers no trouble.

MILLERS FALLS CO.,

74 Chambers Street.

NEW YORK.

Q. S. BACKUS,

BACKUS Bit Braces. Angular **Borers** Ratchet Straight Extensions.

No. 102 Chambers Street, NEW YORK.

LIGHT-RUNNING FOOT-POWER

BAND SAW MACHINES

INVALUABLE FOR

Carriage Makers,

Cabinet Makers, Pattern Makers,

AND

Ornamental Wood Workers

OF EVERY DESCRIPTION

Each Machine has five Saws of Assorted Widths.

Saws in all sizes, widths and lengths on hand and

KIMBALL & KIMBALL,

639 Arch St., Philadelphia, Pa., U. S. A.

AGENCIES:

C. B. ROGERS & CO., 109 Liberty st., New York. CHAS. E. LITTLE, 59 Fulton st., New York. LOVEGROVE & CO., cor. Franklin and Lake sts.

Chicago, Ill.
J. & H. PHILLIPS, 26 & 28 Sixth st., Pittsburgh, Pa.
JAMES DODDS, 11 South Main st., Dayton, Ohio.
JULIUS MORISSE, 813 N. 4th st., St. Louis, Mo.

THORNE, DeHAVEN & CO., Drilling Machines,

21st Street, above Market, Philadelphia.

PORTABLE DRILLS. Driven by power in any direction.
RADIAL DRILLS. Self-feed--Large Adjustable Box Table.
VERTICAL DRILLS. Self-feeding.
MULTIPLE DRILLS. 2 to 2 Spindiss.
HORIZONTAL BORING AND DRILLING MACHINES. 1
HAND DRILLS. CAR BOX DRILLS.
SPECIAL DRILLS. For Special Work.

NATIONAL

FINISHED

[BRIGHT OR BLUED]



These nails are made of the best brands of NOR-WAY IRON, and are guaranteed to be equal to any in the market.

NATIONAL HORSE NAIL CO., VERGENNES, VT.

RORACE DURRIE & CO., Agenta, No. 97 Chambers St., New York

A. F. PIKE.

East Haverbill, - New Hampshire,

Manufacturer and Wholesale Dealer in

Scythe, Axe, Knife and Hacker

STONES OLD RELIABLE POND (Red Ends), LLE, ND GRIT, MOUNTAIN, MOUNTAIN, NG MACHINE, tyle desired.
and Quality Guaranteed.
the above Stones are of good
grit and will not glaze.

The Oldest Shot Tower in America.



THOMAS W. SPARKS,

SPARKS' American Chilled Shot,

Rivaling the English and all Others. STANDARD DROP & BUCK SHOT AND BAR LEAD. 121 Walnut Street, Philadelphia.





SHINGLES

carpenters

above article. It is superior to all the weight, lays much closer, therefore is storm proof, cannot care a care, &c. Any carpenter can put them on. Send for description and price list to a care, and the care, and the care care and care is the care, and care is the care and care is a care in the care in the care is a care in the care in the care in the care is a care in the care in

Grant Fan Mill & Cradie Co.

Grant's Grain, Coffee, Rice, Cochineal and Pimento Fans,



TURKEY WING GRAIN CRADLES,
4, 5 and 6 fingers.
GRAPE VANE GRAIN CRADLES,
4 fingers.
SOUTHERN PATTERN GRAIN
CRADLES,
4, 5 and 6 fingers.
All of a superior quality.
None genuine unless marked
Grant Fin Mill and Cradle Co.
Send for illustrated catalogue
and price list.
P. O. Address,
MEIROSE Reseasolage Co. N. V.

MELROSE, Rensselaer Co., N. Y. RIEHLE BROS.



ja, Lehigh Valley, Baltimore and Ohio, and other dis. Patent Coal and Hay Scales. Warehouse atform Scales and Scales for all purposes. Ma-for testing materials, all sizes.
9th si., at Master; Store, 2.8, 4th st., Phila.
New York Office, 3; Liberty Street.

BOILERS, ENGINES AND TANKS FOR SALE at LESUIF BOILER WORKS. Pearl, near Greene St., Jersey City. Repairs promptly attended,

Established in 1839

Formerly L. & A. G. Coss.

Patent Screw Wrenches

JUNE 26, 1866, MARCH 23, 1869, REISSUED 1870.

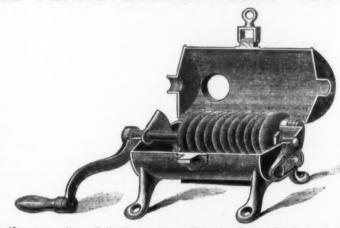
MOVEMBER 10, 1863, FEBRUARY 23, 1864, REISSUED JUNE 1, 1869, IMPROVED AUG. 1, 1877.

The back thrust when in use borne by the SHANK instead of the Handle. None genuine unless stamped "L. COES & CO.

WORCESTER, MASS.

Warehouse, 97 Chambers St., & 81 Reade St., N. HORACE DURRIE & CO., Sole Agents.

THE PENNSYLVANIA MEAT CUTTER



Has the capacity of Cutters upon the market which cost 60 per cent. more money.

PRICE LIST.

No. 1, containing 8 Steel Knives. os. 1 and 2 are packed 1/2 dozen in a box; No. 3 packed 1/2 dozen in box.

LLOYD, SUPPLEE & WALTON, Philadelphia. HORACE DURRIE & CO., New York City.

BRASS AND REAL BRONZE CASTINGS

Also, White Metal Castings for Patterns.

PAYSON & CO.,

1319 to 1325 W. Jackson St., and 166 Randolph St.,

CHICAGO.

LANE'S MEASURING FAUCET.

Price, \$3.00.

For Light or Heavy Molasses, Oils, Varnishes or other Fluids.

LANE BROTHERS, Millbrook, N. Y. General Agency, GRAHAM & HAINES, 113 Chambers St., New York,

Whistles Spring Elliptic



S 8 \supset O KIN EAL 0

We call the attention of the trade to the whistle for speaking tubes, represented in above cut, as being superior, in a mechanical point of view, on account of the

PATENT ELLIPTIC SPRING,

which is much less liable to break and get out of order than the spiral spring usually used. These whistles being made entirely of metal, are very strong and durable. They are offered in a variety of styles at very reasonable prices. Send for illustrated circular and quotations.

We also invite an examination of our PATENT HEVERSIBLE DOOR LOCKS, which by their peculiar construction, combine simplicity, strength and durability. In these Locks the combination of the Patent Lever and Spring renders the latch movement very easy and prompt in

Illustrated catalogues and price lists furnished on application.

TRENTON LOCK AND HARDWARE CO., Manufacturers of Superior Building Hardware.

JAMES M. VANCE & Co., 211 Market St., Philadelphia, Pa. ; JAMES MARSHALL, 48 Warren St., New York,

dently expected that the association at Pittsburgh would advance the card to 3.50, and most people were somewhat mystified when the telegrams announced the result to be a 3¢ card. The explanation of the situa-tion is that a larger advance would have seriously disturbed the price of labor, ad-justed as it is on a sliding scale, but in these days of rapid spread of information any such fictitious state cannot long be maintained, and if Iron is really worth 3.25 or 3.50, the puddlers and other workmen will on know it and claim their extra wages. The extremely low stage of water prevents any shipments from Pittsburgh by boat, so that the rail freight actually brings 3¢ Iron, supposing that any can be bought at that, about up to what the market calls for here, namely, 3.30 and 3.40. Nails, too, are scarce for the same reason, mills within the range of low freight being so crowded with large orders that they are not booking any more, oven at the present rate of 3.40 and 3.50. The advance in all sorts of hardware, such as Coes' wrenches, scales, beams, stock bells, small nails, tacks, &c., and the notifications from almost all manufacturers that orders will be received "subfacturers that orders will be received "sub-ject to the prices ruling at the time of de-livery," have gone very far to strengthen the tone of the hardware market. It is ex-pected that there will be some decrease in the present activity about December, as is usually the case, but there are no fears en-tertained concerning the maintenance of advance far into spring or next summer. The old Louisville Rolling Mill at this point is not yet in operation, but it is not likely that so good an opportunity to enter upon profitable Iron manufacture will much longer be neglected.

BALTIMORE.

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, Baltimore, reports us the following under date of Sept. Sept. 29: Manufactured or Finished Irons have again taken an upward turn, and we now quote ordinary sizes Refined Bars at 3¢ @ 3¼¢ % b, with the demand for same greater than the capacity to supply.

Acca. Des 1201, 1 00 0 03 78 00 1		-	3 4	P 3/4
" I to 41/2 by 11/2 to 2	. 49	Th	3 6	332
" 14 to 2, Round			3 4	J. J.
and Square	64		26	A -86
Hoop Iron, 11/4 wide and upward	44	- 2	,33	374
	44	32	1 10	4 . 7
Band Iron, from 1 to 4 in. wide.,	66	32	6 93	324
Horse-shoe Iron		33	6 0	3%4
Norway Nail Rods	66	*	a	536¢
Black Diamond Cast Steel	6.6	val	4 6	12 6
Machinery Steel	64		3 69	"3 2
	64	7	- 39	0 4
Cast Spring Steel	64	0	. 193	0,66
Homogeneous Steel Plate	0.0	654	6 68	7 0
Common Horse Nails	44	10	a	14 €
R. R. Spikes, 51/29-16		286	4 60	246
Perkins' Horse shoes, & keg of roo	The	.3/8	r 40	3.62%
) TOB			
" Mule shoes				4.63%
10	0	8	7	6
Putnam Horse Nails # 10 z8	TO.	20	21	238
Globe Horse Nails B B 18	10	20	W.Y	226
T are list discount to the trade	.4			-34

R. C. HOFFMAN & Co., Iron and Commission Merchants, report the Pig Iron market as follows under date of Sept. 30: We have to report a further advance in price of Pig Iron and Blooms, with market active. We quote to-day as follows:

Baltimore Ch	arcoal				
Virginia	46000	1350		 39.80 (41,00
Anthracite No				30.00 @	
" No	3		hite	 28.00 G	24.00
** M	ottled	and W	hite	 25,00 6	
Tharcoal, C. 1					
86 66					
Refined Bloom	36			 53.00 @	54.00

RICHMOND.

Mr. Asa SNYDER, Iron Merchant and Fur-nace Agent, writes as follows under date of Sept. 29: Reported sales of 200 tons Foundry Pig Iron, of which 100 tons were Scotch.

Large sales of Cast and Wrought Scrap also.

American Scotch Fig from	(5 20.0)
Anthracite, No. 1	\$29.00 (0) 31.0
44 No. 3	, 28.00 (30.0
No. 3	27.00 @ 29.00
" Mottled and White	35.00 @ 27.00
Va. Cold-blast Chargoal, Cold-sho	rt. 98.00 @ 31.00
" Neutral.	33.00 @ 35.00
Va. Warm-blast " Red-shor	t 20.00 @ 22.00
Old Rails	27.00 @ 28.00
Wrought Scrap No. 1	24.00 (6 25.00
Machinery " No. 1	
Richmond Refined Bar Iron, Stand	
Old Dominion Nails, per keg	3.25 @
Horse Shoes, Tredegar	3.75 @
Mule " "	4.75 0
Freights to New York, \$1.90 for	2240 Da. by sail.

Our English Letter.

Review of the British Iron, Steel, Metal and Hardware Trades.

(From our Regular Correspondent.)

LONDON, ENG., Sept. 15, 1879.

THE TRADE REVIVAL in the metallurgical industries of this country progresses slowly, but that it does exist as a substantial fact can no longer be denied. You are aware, from the tone of some of my recent letters, that I have not expressed myself as being too sanguine as to the prospects and position of the British iron, steel and hardware industries, and that I had formed the opinion that we should not witness any real improvement for some time ahead. I do not even now recant; but I think I may venture to modify my opinions in the face of the better state of feeling in various parts of the country, and the in-creased actual business which is being done in various quarters. Matters are amending in various quarters. Matters are amending slowly and laboriously, but there seems, at last, to be no doubt that the process of amelioration is in operation "all along the line." One of the best features of the change is, to my thinking, the renewal of confidence which is becoming apparent in Scotland and elsewhere. Men are beginning to think that all their follows are not bank directors or other professional swindlers. directors or other professional swindlers, and to find that all the reputable institutions of the country stand as firmly as formerly. They also perceive that credit is one of the prime essentials of a "live" state of business, and that in its absence neither pro-

amount of courage all round the commercial circle, the earliest outcome of which is the tentative revival of trade of which I now speak. The timorous ones, nevertheless, are numerous and are letting "I dare not" wait upon "I would," under the impression that the great briskness of which we hear from the United States is largely speculative and inflated, and that it will prove a merely evanescent bubble, which will burst almost as soon as launched into the cold atmosphere of general competition. Others, mosphere of general competition. Others, again, are firmly convinced that a marked change for the better is being gradually inaugurated throughout the world, and that its first decided symptoms are manifested in the United States. The latter class are, the United States. The latter class are, consequently, preparing for the flood tide, and by getting ready for restarting mines, furnaces, mills, &c., show the sincerity of their convictions. There are, at the same time, most earnest congratulations on all sides anent your abounding prosperity, which, it is commonly agreed, your manufacturers are fairly entitled to. In these expressions of good-will there is, it is true, occasionally a little "tariff" sting, but in the main the facts are just as I have stated them. Your prosperity, further, gives an earnest of a better state of things to be here, and if only for this purely selfish gives an earnest of a better state of things to be here, and if only for this purely selfish reason, we should welcome the amazing ac-tivity of your iron and steel works. We are inclined to believe that the remainder of 1879 will be characterized by remarkable activity throughout the whole of your iron-producing localities, but the formidable preparations in the shape of relighting furnaces and restart-ing wills dispose many to the conviction that ing mills dispose many to the conviction that the demand will presently be overtaken, and the demand will presently be overtaken, and that a rather sharp collapse will ensue. Whether this is probable, or the contrary, you will be far better able to judge than myself. On a rapidly rising market there must always be a certain amount of risk on this head, and the contingency will almost certainly arise, and not be distent, in this country. Already we learn that many of the static furnaces of South Staffordshire are being made ready for working; mines are being restarted in the Forest of Dean, South Wales, &c.; mills are being again worked in Derbyshire, Cleveland, &c., and, generally speaking, production has taken generally speaking, production has taken wing before demand. The only movement in the opposite direction is that which has been inaugurated by the principal Scotch iron-masters, who met at Glasgow last week, iron-masters, who met at Glasgow last week, and decided to at once blow out one-third of the total number (90) of the furnaces now blowing, so as to effect a proportionate reduction of the make of pig, for which there is now a good and increasing sale. Whether this good piece of strategy will be carried to the stated issue or otherwise I cannot say. I should almost think it won't, but whether that is a or not, the interin effect has not that is so or not, the interim effect has not been, and will not be, bad, seeing that any restriction of the make under present conditions is pretty certain to keep up prices. You will find it stated elsewhere that an "enormous" business was done last week in warrants, which were sent up several shilings in consequence. You will no doubt be enabled to place your own construction upon this circumstance when I remind you that gambling in his ison warrants is pretty much the same in Glasgow as 18 stock and share speculating elsewhere. The good peo-ple of "Glesca" have an additional zest just ple of "Glesca" have an additional zest just now for the sport, bearing in mind the long period of inaction through which they have passed. The best criterion of the market is the course of good makers' brands, which have not as yet improved more than about 1/66 2/per ton. I give you statistics, &c., under their appropriate heading. In Cleveland, Staffordshire and the other large smelting districts there is more firmness in almost all kinds of pig—a fact which would seem to point to the foundries having begun to feel their feet, and also to more work in the enpoint to the foundries having begun to feel their feet, and also to more work in the engineering establishments. As regards manufactured iron and ordinary merchant qualities, the change is tardily expressing itself, and few facts have as yet transpired which would lead one to the conclusion that these important branches are receiving increased sustention. Odd orders for hoops, sheets, &c., are talked about, but I am afraid the next official returns will not show us heavier shipments. Sheffield, I regret to say, seems next official returns will not show us heavier shipments. Sheffield, I regret to say, seems extremely apathetic, and neither private nor public advices convey the impression that the amelioration spoken of elsewhere has extended, or will immediately extend, to that very hard-hit town. There is a more cheerful tone, and that is about all, several of the large industries being not a whit busier, and that, too, at what should be the pusier and that too at what should be the

BMIGRATION TO THE STATES is, I notice, touched upon by certain of the New York journals, as well as by the American correspondents of some of the trade journals here. The warning note sounded against the mad-cap proposals of Mr. Alex-ander Macdonald and other ill-informed persons, comes at an appropriate time, and will, I have little or no doubt, tend to nip the incipient migration in the bud. I am as compared with 9,918 tons for the corresponding to the that the more would be a second or the corresponding to the corresponding t not sure that the movement would have at-tained large proportions under any circum-stances, for the miners, as well as other present or former members of the larger trade unions, have to a great extent lost faith in their rash leaders, and no longer stances, for the management of faith in their rash leaders, and no longer move in well-organized hosts at the bidding of their once all-powerful generals. The trade unions of Great Britain have, indeed, been almost dispersed from one or another cause, as is proven by the statement made at Sheffield the other day, that scarcely one in a hundred of the Yorkshire and Derbyin shire coal miners now belongs to the union.

This is, I believe, paralleled in almost every shire is, I believe, paralleled in almost every week. About 5000 men are stated to be thrown idle by this restrictive movement.

LARGE AMERICAN ORDERS

LARGE AMERICAN ORDERS

most active season of the year.

gradually worked up a fairly consistent amount of courage all round the commercial circle, the earliest outcome of which is the tentative revival of trade of which I now speak. The timorous ones, nevertheless, are numerous and are letting "I dare not" wait upon "I would," under the impression that the great briskness of which we hear.

Witness" writes to the Daily News, giving | John E. Swan & Bros., Limited, Middlessian, and saying: "There is little or no furniture in the rooms in which these poor creatures huddle. Poverty has forced them to take "2" "35/6 White ... 33/6 White ... 33/6 Refined metal ... 53/ Refined metal ... 53/ that the great briskness of which we hear.

Daily scores of wearing and civil and some and civil and civil and civil and civil and civi apparel. Daily scores of women and children wade about in the slime in the River dren wade about in the slime in the River Tees in search of mussels and garbage. As early as 4 o'clock in the morning children, clad in rags, are to be seen near the works, waiting for the men coming off the night shift, in order to beg any crust or other scrap they may have left, which they raven-ously devour. To-day a poor woman with four young children told the police magis-trate she had had nothing to eat for three trate she had had nothing to eat for three days, and she knew not where to get any-thing; and one man assured me he had for-gotten the taste of flesh food, and dare not take any because he feared it would make him ill. Yesterday a man was found in a field near Middlesbrough dying of starva-tion. Food was given him, but he vomited it and blood and shortly after died. A man has just informed me that he has several times made broth of second-hand bones for a poor man who has been ill for a long time. Some may urge that intemperance has con-tributed to the terrible state of things existing. Perhaps it has, but what workingman, no matter how careful he may have been, no matter how careful he may have been, could stand against being out of work for one or two years? The poor people who are destitute fed themselves as long as they could, but now they have nothing, and many of them do not get a meal of oatmeal a day. There was considerable distress last winter and the winter before, and local charity met it; but the distress is now more widespread; all the people in the town are more or less poor, and contributions from all parts of the country are needed. The destitute have no wish to live on charity; they do not even want to remain in the town, but ask to be sent out of the country—to Amertute have no wish to live on charity; they do not even want to remain in the town, but ask to be sent out of the country—to America, where the iron trade is prosperous and men are wanted, or to any of the colonies where work can be had. They express themselves willing to adapt themselves to any kind of work. All they want is food, and that they cannot get here." All this is fully confirmed by an official appeal for help made to the Home Secretary to-day. I am afraid this dismal delineation is in no sense overdrawn, and that at Sheffield the state of affairs is equally bad. I was in that town the other day, and I was told that there are hundreds of houses empty in the vicinity of the large works; hundreds of others into which several families are crowded in order to save rent, rates and taxes; and large numbers in which the occupants are allowed to live free, the owner being only too glad to have the dwellings tenanted to prevent the property from going to rack and ruin. One cannot avoid reflecting, if this is the case in the green tree of autumn, what will it be in the dry severity of winter? Unless trade rapidly revives, I am afraid matters will be worse this winter than they were last. This must be the case in the absence of remarkably increased viam arraid matters will be worse this winter than they were last. This must be the case in the absence of remarkably increased vi-tality, seeing that the unfortunate opera-tives have been compelled to eke out their very scanty earnings by living on the pro-ceeds of their furniture and clothes.

has stiffened since I last wrote, an especially large turnover having been transacted in warrants. Makers' brands are also stronger, large turnover having been transacted in warrants. Makers' brands are also stronger, the shipments having been well upheld, particularly to your ports. Freights are quiet but firm at 10/ to 11/ per ton. In Connal's stores, there are now 303,700 tons, against 192,751 tons this date last yeer—an increase of 2974 tons in the week. Shipments to date have been 343,557 tons, an increase of 70,843 tons, mostly to foreign destinations. On the other hand, the imports of Cleveland pig show a decrease of 43,880 tons. Ballast pig remains at 37/6 alongside in Forth or Clyde. John E. Swan & Bros. report 89 furnaces in blast, against 92 this date a year ago. James Watson & Co., Glasgow, report as under: "The improvement which we reported last week has been since continued, and a very large business has been transacted at higher prices. On Monday the market opened strong at 46/73/, advancing to 46/10/2, but receding in the afternoon to 46/4, but ouickly recovered. advancing to 46/10½, but receding in the afternoon to 46/4½ per ton. On Tuesday it opened flat at 46/3, but quickly recovered, with a good business done up to 46/10½ per ton. On the following day the first business was transacted at 47/1½ per ton, but the price gradually dropped to 46/3 per ton. Yesterday morning, when it was known that the ironmasters had decided to blow out one; third of the furness the market connect. third of the furnaces, the market opened very firm at 47/3, relapsing, however, to 46/10½ per ton, and to-day a very large business has been done from 45/10½ to 48/1, cash, closing sellers at the latter figure, with buyers at 48/per ton. Owing to the fluctuations in the market it is difficult to arrive at the accurate prices of makers' iron, therefore the undernoted are only approximate.

	ponding wee	g of	187	5."	Wee	quote:	
					1	No. z.	2
	G. M. B., at Gla	ABEO	W		*****	48/	
	Gartsherrie,	46				31/6	
	Coltness,	66				56/	
	Summerlee,	46				49/6	
	Langloan,	0.6				51/6	
	Carnbroe,	6.6				50/	
	Calder, at Port	Du	idas.			50/6	
į	Glengarnock, a	t Ar	dros	san		49/6	
l	Eglinton,		6.6	f.		48/6	
	Dalmellington.		44	0.0		47/6	
	Shotts, at Leith					42/	

prime essentials of a "live" state of business, and that in its absence neither producer nor consumer can get along in a satisfactory manner. It is further evident that all the weak financiers have been weeded out, and with them hundreds of feeble firms whose only mission appeared to be to plunge into and demoralize the trades in which they purported to be engaged, but of which most of them really understood nothing whatever. These and other causes seem to have

DOI	v	ugh:			G. 1	f. B.
No.	X	Foundry			 38/6	Mottled White
6.6	3	198		0 +	 35/	Refined metal
64	4	Forge	0 0		 34/6	Kentledge

All not cash and delivered f. o. b. at makers' wharves in the Teas.

wharves in the Tees.

SHEFFIELD TRADE WITH THE STATES
is said to be improving, especially as regards
cutlery. A statement just issued—under the
authority of the American consul, I understand—shows that during the quarter endratand—shows that during the quarter ending June 30, 1878, the exports of steel amounted to £41,675; the corresponding quarter of 1879 showed that they had increased to £45,446; cutlery for the same quarter of 1878 was £20,044, and for the 1879 quarter £30,269. The total exports for the quarter ending June, 1878, were £86,025, and for the quarter ending June, 1878, &143,000. The total exports for the whole year of 1872 were £1,734,626; for 1873, £1,659,000; for 1874, £1,263,000; for 1875, £691,000; for 1876, £475,000; for 1877, £479,000, and for 1878, £429,000. These figures demonstrate a growth of the turn over which is as gratifying to the Sheffield manufactures as it has been unexpected. Judging from the number and weight of recent utterances, sheffield is BECOMING RECIPROCITARIAN sectors of the American Cottons of tube strip, and the sheet makers are assected to £41,075; the corresponding protesty sure that the reciprocity idea—the free traders mildly term it a "creaze"—will certainly attain large proportions before long, unless you presently reduce your tariff. Is that consummation among the probabilities?

STAFFORDSHIRE AND BIRMINGHAM

STAFFORDSHIRE AND BIRMINGHAM

STAFFORDSHIRE AND BIRMINGHAM

**Co., of the Mars Iron Works, near Wolver-hampton, have lately secured an order for 1000 tons of baling hoops, in which connection I may say that I notice an announce-ment on the part of the American Cotton Tie Supply Company, of New Orleans, as the proprietors of the Arrow Ties, notify that their patents are still in force in the United States, prohibiting the second use of the buckles as cotton ties. Another house is said to have secured an order for 500 tons of tube strip, and the shefet makers are assected.

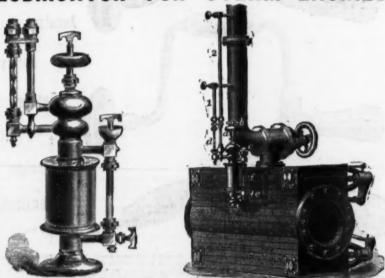
weight of recent utterances,
sheffield is Becoming Reciprocitation
in sentiment, and is beginning to entertain
the opinion that there is a flavor of humbug
about the free trade which is gradually
starving it out. Three leading men of the
town—the Mayor (Mr. David Ward, of Ward town—the Mayor (Mr. David Ward, of Ward & Payne), Mr. Henry Harrison (Harrison Bros. & Howson), and Mr. C. B. Holland (managing director of Brown, Bayley & Dixon Limited)—have within the past few days publicly "gone for" reciprocity, and the leading daily paper of the town advocates it also. You will see by the comments and report of the Ironmonger that the three gentlemen named flagellate the United States as the chief leader of protectionism, and that although they all avow themselves out and out "universal Free Traders," they express decided objections to the lopsided arrangement which is virtually ruining the leading industries of the town in which they live, and of which they are among the States as the chief leader of protectionism, | done, but prices are terribly unremuneraand that although they all avow themselves
out and out "universal Free Traders," they
express decided objections to the lopsided
arrangement which is virtually ruining the
leading industries of the town in which they
leading industries of the town in which they
live, and of which they are among the
chief props. I am aware that Mr. Glad-

stone and most of the Liberals ridicule the idea of any departure from the Cobden theories of free trade, but I am also aware that the opposite idea has many influential disciples—among whom may, I believe, be counted certain members of Her Majesty's government—and would have many more government—and would have many more were it not that it appears to be the unpopular side. The majority of persons are likely to go with the stream, and will not show their cards until they feel pretty certain that they can do so with some assurance of being on the winning side. Personally, I am pretty sure that the reciprocity idea—the free traders mildly term it a "craze"—will certainly attain large proportions before long, unless you presently reduce your tariff. Is that consummation among the probabilities!

of tube strip, and the sheet makers are asserted to be "full" of orders; so busy are they stated to be that they have advanced prices 2/6 per ton. The galvanizers are likewise strong, and have further advanced spelter £1 per ton, and the galvanized goods in proportion. Even common bars are alleged to be on the move, and to have here and there gone up 5/ or so a ton. If all this be true, there is indeed some hope for this be true, there is indeed some hope for Staffordshire, including my Lord Dudley, who is now on the Continent recruiting his shattered health—broken down, rumor says, by the dullness of the iron trade. In the hardware industries rather more is being done, but prices are terribly unremunera-

HARPER'S

LUBRICATOR FOR STEAM ENGINES.

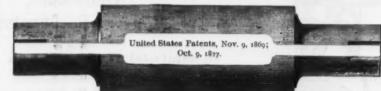


This invention is an improvement upon that class of Lubricators in which the lubricating material is floated from the reservoir by the condensed steam passing into the reservoir, and may be applied to all kinds of Steam Engines, by introducing the Lubricant into the steam pipe so that it thoroughly lubricates and prevents the wear of cylinder, piston, valves and rods, thereby saving oil, coal and packing, and adding greatly to the easy working of the Engine. The ultimate saving in repairs to the engine is many times greater than the cost of Lubricator. The glass tube connected with the reservoir indicates the quantity of oil in the reservoir; the upper glass tube the quantity of oil eacaping. The quantity of oil admitted to the engine can be regulated with certainty. We might claim great economy of oil; that we leave with the Engineer. This invention is in practical operation, and is very highly recommended by the best engineers, and all now using it. This invention is secured by Letters Fatent of the United States, dated Sept. 50, 151, and April 4, 1577. Information concerning the Lubricator may be obtained from our Agents, or by addressing

THE HARPER STEAM LUBRICATOR CO., Westville, Conn.

Hollow Chilled Rolls.

Any Required Diameter or Length.



Suitable for Plate, Sheet, Nail Plate, Bridge Iron and planishing for Iron and Steel. After two years of the severest tests in practical use in eighty-five different iron and steel works, it is admitted that the HOLLOW CHILLED HOLLS keep their surface and give a superior finish to the product.

Office Swift's Iron and Steel Works, Cincinati, March 7, 1870.

Messrs. Totten & Co., Pittsburgh, Pu.—Gerttemers: Having had two pairs of your Hollow Childe Rolls in use during the last eighteen months in our plate train, we have no hesitation in expressing our satisfaction with them and with the character of the work they have performed.

We think the principle upon which they are made is the correct one, and find, after severe trial, that they carry a good surface for a considerably longer time than the ordinary childed roll; are less liable to checks, and the expansion and contraction is much more uniform and gradual throughout the entire body of the roll, all of which tend to make the gauge of the plates more equal. Our roller, a very competent one, says they are the best rolls he has ever worked at, preferring them to any other make.

Whenever we have occasion to order any more Chilled Rolls we shall be pleased to give you our order. Yours respectfully,

Per Geo. E. Clavas, Vice-President.

ROLLING MILL PLACEHINERY OF EVERY NEWSCHILDER.

ROLLING MILL MACHINERY OF EVERY DESCRIPTION A SPECIALTY.

TOTTEN & CO., Pittsburgh, Pa.

PYROLUSITE MANGANESE COMPANY, MINERS, DEALERS AND EXPORTERS OF HIGH TEST Crystallized Black Oxide of Manganese

STEEL, GLASS, PAINT, VARNISH and DRYER MAKERS, OIL BOILERS, &c.
MANUFACTURERS OF SUPERFINE FLOATED

Standard Barytes, Gritless Ochre, Borate of Manganese, &c. Office, 54 Cliff Street, New York.

The Iron Age Directory

and Index to Advertisements.
Page.
Agricultural Implements. Johnson, Gere & Truman, Owego, N. Y
Clayton Steam Pump Works, 14 and 16 Water st., Brooklyn, N. Y
Miles Alarm Till Mg. Co., Providence, R. I
Anti-Friction Metals, teeves Paul S., Philadelphia,
Architectural Iron Work. Etna Iron Co., 86 Gorek. N. Y
Jennings C. E. & Co., 98 Chambers, N. Y
Coox R. & Sons, Winsted, Conn. Hotchkias Guy C., Field & Co., 522 E. 14th, N. Y
Babbit Wetal. Philadelphia Smelting Co., 12th and Noble, Phila34 Bag Holder.
Thorn Wire Hedge Co., 34 Canal, Chicago, Ill 3
Bellows, Manufacturers of. Scott Geo. M., Chicago, Ill
Belting, Makers of. Alexander Bros., 412 N. 3d, Philadelphia37 Forepaugh Wm. F. Jr., & Bros., Philadelphia37 N. Y. Belting and Packing Co., 37 Park Row, N. Y. 9
N. Y. Beiting and Packing Co., 37 Park Row, N. Y. 6 Bird Cages, Makers of. 6 Sons, Buffalo, N. Y. 6
Bird Cages, Makers of. Jewett John C. & Sons, Buffalo, N. Y
Makes Make
Miliers Fails Co., 74 Carlot, Makers of: Blocks, Tackle, Makers of: Burr & Co., 31 Peck Silp, N. Y. McMillah Win, H. & Bro., 113 Soath, N. Y. Penfield Block Works, Lockport, N. Y. Providence Tool Co., Providence, R. I.
Providence Tool Co., Providence, R. I
Bolt Cutters. National Bolt and Pipe Mach. Co., Cleveland, O
Belts (Screw.) Bolt Works, Philadelphia
Lyon N., Albany, N. Y.
Tiebout W. & J., 200 Pearl, N. Y
Bridgeport Brass Co., 43 Chambers, N. Y
Manhatian Brass Co., 83 Reade, N.Y. 2 Merchant & Co., 507 Market st. Phila 77 Phys & Atwood Mgs. Co., 80 Chambers, N. Y. 3
Brass Butts, Make September 1, N. 18 Brass, Mans/octor cry. Brass, Mans/octor cry. Annonia Brass and September 10., 19 Cliff, N. Y. 2 Bridgeport Bards and September 10. 19 Cliff, N. Y. 3 Bridgeport Bards September 10. 19 Cliff, N. Y. 3 Brass contact September 10. 19 Cliff, N. Y. 3 Davote Shooth & Haydens, 49 Chambers, N. Y. 2 Merchant & Co., 50, Market st., Phila. 7 Plume & Atwood Mg. Co., 8c Chambers, N. Y. 2 Rome Iron Works, Rome, N. Y. 3 Rome Iron Works, Rome, N. Y. 4 Scovitt Mg. Co., 48 Broome, N. Y. 4 Waterbury Brass Co., 296 Brondway, N. Y. 2 Waterbury Brass Co., 296 Brondway, N. Y. 2
Reeves Paul S., Philadolphia43
Brick Machines, 309 S. Fitth Phila
Butcher and Shoe Knives, Manufacturers of.
Butts and Hinges. American Suiral Spring Butt Co., 82 Beekman, N. Y. 42 Sabin Mfg. Co., Montpeller, Vt. 8 Stanloy Works, New Herlam, Con. 6 Union Mfg. Co., 93 Chambers, N. Y. 7
Carriage Bolts, Makers oy.
Townsend, Wilson & Houser, Jakers of. Carringer Hardware, Makers of. Fin Richard P., Wilmington, Del. 6 Smith H. D. & Co., Plantsville, Conn. 1.12 Wilcox & Howe, Eirmingham, Conn. 53
Carriage Springs, Dexter Spring Co., Hulton, Pa
Car Axles. Roberts A. & P. & Co., 365 S. 4th, Philadelphia 5 Casters. Phomix Caster Co., Indianapolis, Ind
Carrier John, and Monroe, N. Y
Cheiregruphs, Maiden Lane, N. Y. 3. Nixon, Ed. H. e. Maiden Lane, N. Y. 3. Chinelis, Menufacturers of, Buck Bros., Milbury, Mass. 35 Chucks. v. Hayford Conn. 40
Chucks. Cushman, A. F. Hartford, Conn. 40 Clock Springs, &c. Cary & Moun, 334 W. 20th, N. Y. 32 Cary & Moun, 334 W. 20th, N. Y. 32
Cuchinas, A. F. Hartford, Conn. 40 Cuck Springs, &c. Cary & Moes, girk, N. Y. Dubb Mirror of Cont. M. Springs, Conf. Meds. 60 The Hoboken Coal Ce., Jersey City, N. J. 6 Carl Heds.
The Hoods, Wis., 41 Cherry, Phila
Coffee and Spice Mills. Lane Brothers, Millbrook, N. Y
Wister Francis, 230 S. Third, Phila. Compusses and Dividers, Manufacturers of, Compusses and Dividers, Manufacturers of, Compusses and Dividers, Manufacturers of,
Merchant & Co., cor Market st., Phila
The New Haven Copper Co., 24 Cart. St. Corn Huskers. Chambers. Bering & Quinlan Decatur, Ill
The Goulds Mig. Co., Beneca Falls, N. Y Corrugated Moscler, Graine Moscler, Graine Moscler, Graine Moscler, Graine Cracibles, Manyacturers of, Wile, Sledel & Co., 790 Market, Phila. Outlery, Importers of, Boker Hermann & Co., 10 Duane, N. Y. Clatworthy F. & W., & Chambers, N. Y. Friedmann & Lautoriung, 91 Chambers, N. Y. Cuttery, Manyacters of,
Cracibles, Manufacturers of. Wile, Sledel & Co., 709 Market, Phila
Boker Hermann & Co., 101 Duane, N. Y 35 Clatworthy F. & W., 82 Chambers, N. Y 16 Friedmann & Lauterjung, 91 Chambers, N. Y 16
Friedmann & Lauterjung, 9: Chambers, N. Y
John Russell Cutlery Co., so Chambers, N. Y. 43 Marx Bros., 430 Broadway, N. Y
Wallace Bros., Wallingford, Ct
Wm. Rogers & Son., Hartford, Ct. 17 19 Herential Patier Hiecks. N. Y. 19 Lock Mfg. Co., & Chambers, N. Y. 20 Dinner Pail and Lanterpas. Haight Jos., Portenester, N. Y. 10 Iscoult Tabless. 11 Leigh Edwd. B. St. Louis Elevator, St. Louis, Mo 20 10 Hoer and Gate Springs. 20 Dunne F. R., 182 Flyings. 21 Yan Waroner & Williams, & Beekman, N. Y. 22 23 24 25 26 27 28 28 28 28 28 28 28 28 28 28 28 28 28
Haight Jos. Portchester, N. Y. Discount Tables. Louis Elevator, St. Louis, Mo20 Louis Edward, B., St. Louis Elevator, St. Louis, Mo20
Dunne P. R., 182 Fulton, N. Y
Dunne F. R., 162 Williams, & Beekman, N. Y. 42 Door Boits. It was Holas. It was Holas. It haven a Ch. 17 Drilling Both achines, Makers of. Wiley A Russeli Mg. Co., Greennield, Mass. 32 Drop Forgings. Rose Wm. & Bros., West Philadelphia, Pa. 5 Mertil C. & Sons, 556 Grand, N. Y. 42 Drop Hanmers.
Prop Forgings. Rose Wm. & Bros., West Philadelphia, Pa
Drop Presses. New Haven Conn. 41
Edge Tools, Wakers (F. Doscher M., 96 Chambers, N. Y
Weston Dynamo-Electric state of the conf
Klevators, Makers of Chicago, Ill
Jennings, S. H., Deep River, Conn
Engines. Air. Sherrill Roper Air Engine Co., 91 Washington, N.Y. 40
Engines, Gas. Schleicher, Schumm & Co., Philadelphia
Baldwin Locomotive works, Financiphis 14. Barines, Steam, Makers of. Ilarris Wim. A., Providence, R. I
Shapley & Wells, Binghamton, N. Y
Bunger M. E. & Co., Indianapolis, Ind
Weinerii Roll. & Co., Catacae, T. & Co., Co., Co., Co., Co., Co., Co., Co.,
Lane Bros. Milibrook, N. Y
MOSS E. W., OV FURE, N. &

	1	THE IRON AG
	Files, Manufacturers of. Auburn File Works, & Chambers, N. Y. Barnett G. & H., 41 and 42 Richmond, Phila. Bulsston Henry & Sons, Phila. Draper C. F., Sing Sing, N. Y. Everhart James M., Scranton, Pa. Johnson & Bro., 1 Commercial, Newark, N. J. McCaffrey & Bro., 172 and 1734 N. 4th, Phila. Nicholson File Co., Providence, R. I. Spencer J. R. & Son, Sheffield, England. 16 Fire Arms.	Lanterns. Manufacturers of. Dietz R. E. 54 and 56 Fulton. N. Y. DuBrui N. & Co., Cincinnati, O. Howard & Morse, 45 Fulton, N. Y.
	Barnett G, & H., 41 and 43 Richmond, Phila. 5 o Disston Henry & Sons, Phila. 20 Draper C, F., Sing Sing, N, Y 8	
	Johnson & Bro., 1 Commercial, Newark, N. J. 8 McCaffrey & Bro., 1742 and 1734 N. 4th, Phila. 8 Nicholson File Co. Providence, R. L. 28	Johnson, Jr. Israel H. & Co., Philadelphia. Leveling Instruments. Bicknell & Comstock, 27 Warren, N. Y
	Paul Chas. B., Williamsburgh, N. Y	Disston Henry & Sons., Philadelphia
2	Common B Ct - Chambers W W	Bohannan Wilson, Broadway and Kossuth, Brook- lvn, E. D. Hillebrand & Wolf, 110 S. 8tn, Philadelohia. Romer & Co., Newark, N. J. Smith & Egge Mg. Co., Bridgeport, Conn. Yale Lock Mfg. Co., G Chambers, N. Y.
3	Borgner & O'Brien, Philadelphia, Pa. 28 Brooklyn Clay Retort and Fire Brick Works, Van Dyke St., Brooklyn, N. Y	Smith & Egge Mfg. Co., Bridgeport, Conn
2	Fire Brick, Makers of. Borgner & O'Brien, Philadelphia, Pa. 28 Brooklyn Clay Retort and Fire Brick Works, Van Dyke St., Brooklyn, N. Y. 28 Gariner Brothers, Pittsburgh, Pa. 28 Kreischer B. & Bons, 38 Goerck, N. Y. 28 Maurer Henry, 418 East 23d, N. Y. 28 Newton & Co., Albany, N. Y. 28 Ostrander James & Son, Troy, N. Y. 28 Perth Amboy Terra Cotta Co. Perth Amboy, N. J., 28 Valentine M. D. & Bro., Woodbridge, N. J. 28 Watson John R., Perth Amboy, N. J. 38 Watson John R., Perth Amboy, N. J. 38	Harper Steam Lubricator Co., Westville, Conn
76	Ostrander James & Son, Troy, N. Y	Harper Steam Lubricator Co., Westville, Conn. Machinery. Makers of. Bliss & Williams. 167 Plymouth. Brooklyn. Box Alfred & Co., 212 Green. Phila. Cooke Wm., 6 Cortlandt. N. Y. Cuyahoga Works, Cleveland. Ohio. Landis Ezra F., Lancaster. Pa. L. B. Flanders Machine Works, 1028 Hamilton. Phila. Forsaith S. C. & Co., Manchester. N. H. Garvin E. E. & Co. 130 Center. N. Y. Monawk & Hudson Mfg. Co., Waterford, N. Y. Pittsburgh Mfg. Co., Pittsburgh, Pa. Pratt & Whitney Co., Hartford, Conn. Sellera Wm. & Co., 160 Hamilton, Philadelphia. The Sillen & Farser Frens Co., Middietown, Ct. Wetherlii Mobert & Co., Chester. Pa. Machinery (Barnes's Foos Power.)
13	Watson John R., Perth Amboy, N. J	Landis Ezra F., Lancaster, Pa. L. B. Flanders Machine Works, 1025 Hamilton.
4	Forges, Portable, &c., 278 market, Phila	Forsaith S. C. & Co., Manchester, N. H. Garvin F. E. & Co., 130 Center, N. Y. Mohawk & Hudson Mfg. Co., Waterford, N. V.
8	Brown T. J. Rockwood, Tenn	Pittsburgh Mfg. Co., Pittsburgh, Pa Pratt & Whitney Co., Hartford, Conn. Sellers Wm. & Co., 1600 Hamilton, Philadelphia
7 2 2	Foundry Facings. Paxson J. W. & Co., 514 Beech, Phila	The Stiles & Parker Press Co., Middletown, Ct
A	Fry Pans. N. Y. Stamping Co., 311 Avenue A, N. Y	Little Chas. E., 59 Futton, N. Y
3	Richmond & Potts, 119 S. 4th, Phila., Pa	Machine Screws, Makers of, Hartford Machine Screw Co., Hartford, Conn
7	Haigh J. Lloyd, 81 John, N. Y	Machinists' Teoler, was roury, conf. Machinists' Teoler, was a second of the second o
7	Garden Tools. Dunlap C. W. & Co., 43 Chambers, N. Y	The Geo. Place Machinery Agency, 121 Chambers, N. Y.
7 9	Genring. Comiy J., Lincoin Park, N. J	Harrington E. & Son, 15th 5t. and Pennsylvania ave., Philadelphia, Pa. King J. M. & Co., Waterford, N. Y.
3 7	Judson Junius & Son, Rochester, N. Y	Hammer & Co., Branford, Conn
4 1	Grindstones. Wood H. S. & Co., 33 West, N. Y	N. Y. Handle and Mallet Works, 456 E. Houston1 Penfield Block Works, Lockport, N. Y
5	Kneeland F. L. (Dupont) 70 Wali, N. Y	Manganese: Pyrolusite Manganese Co., 54 Cliff, N. Y. Pyrolusite Manganese Co., 54 Cliff, N. Y. Mechanics' Tools. Jennings C. E. & Co., 96 Chambers, N. Y. Mensaring Tapes. Eddy Geo. M. & Co., 33 Classon Ave., Brooklyn, N.Y. Murray Iron Works, Burtington, Iowa. Silver & Deming Mis. Co. Salem O.
798	Handles, Makers of. Hartigan Wm. L. Burlington, Conn	measuring Tapes. Eddy Geo. M. & Co., 353 Classon Ave., Brooklyn, N.Y.? Meat Chopping Machinery.
0	Hangers, Barn Door. Kidder Silde Door Hanger Co., Romeo, Mich12 Hardware Commission Merchants.	The
8	Fernald & Sise, 100 Chambers, N. Y	Dickerson, Van Dusen & Co., 29 and 21 Cliff. N. Y Graves O. W. & Co., cor. Cliff and Beekman, N. Y. Phelps, Dodge & Co., Cliff, bet. John & Fulton, N. Y. Phosphor Bronze Smelting Co., 2036 Washington av. Phila.
ı	Hardware Commission Merchants, Fernald & Sise, to Chambers, N. Y. 17 Graham & Haines, 13; Chambers, N. Y. 17 Graham & Haines, 13; Chambers, N. Y. 18 Heaton & Denckis, 59 Commerce, Phis. 11 Hundley & Hanks, 59 Reade, N. Y. 18 Samuel S. L., ty Cedar, N. Y. 18 Tennis & Wilson, S. Beekman, N. Y. 18 Whitley John R. & Co., London and Paris. 20 Whitley John R. & Co., London and Paris. 20	Phosphor Bronze Smetting Co., 2039 Washington av., Phila. Purves A. & Son, cor. South and Penn, Phila. Quincy J. W., 58 William, N. Y. Read, D. W. R. & Co., 2045 Wainut, Phila. Sellew R. & Co., 85. Louis, Mo. Starr John. Halifax. Nova Scotia. Metallic Shingles. Ironclad Manufacturing Co., 22 Cliff, N. Y
3	Watbridge G. B., 104 Chambers, N. Y	Read, D. W. R. & Co., 20515 Wainut, Phila
2	Hardware Dealess. Lioyd, Supplee & Waston, 625 Market, Phila25 Shepard Sidney & Co., Buffalo, N. Y	Metallic Shingles, !ronclad Manufacturing Co., 22 Cliff, N. Y2 Metallurgists,
7 2	Hardware Importers. Boker Hermann & Co., 101 Duane, N. Y	Meta'ltargiets, Blair, 919 Chant, Philadelphia. Booth, Garrett & Blair, 919 Chant, Philadelphia. Gritton J. Biodgett, 339 Walbut, Philadelphia. Mill Gearing. Poole & Hunt, Baltimore.
7 7 3	Hardware Manufacturers. Comly Jas., 4739 Paul et., Philadelphia. 16 Coulter, Flagler & Co., 87 Chambers, N. Y. 36 Cowles Hardware Co., Unionville, Conn. 32	Philadelphia Novelty Mfg. Co. Sy Cherry Phila
4 2 2	Enterprise Mfg. Co., Phila	James Boyd's Sons, 10 and 12 Franklin, N. Y
2	Greenfield Tool Co. Greenfield, Mass	Molding Sand. Whitehead Bros. 112 W. 112 N. W.
8	Phila. Novelty Mfg. Co., 8.1 Cherry, Phila. 9 Russell & Erwin Mfg. Co., New York 10 Shannon J. B. & Sons, 1000 Market, Phila. 8	Mouse Traps. Dietz R. E., stand 46 Fulton, N. Y. A. Hunt Mig. Co., Cincinnati. O. Oliver E., to and 106 Beekman N. T. Ripley Mig. Co., Unionville, Conn.
7	Stanley Works, New Britain, Conn	Oliver E., 106 and 106 Beekman N. Y. Ripley Mfg. Co., Unionville, Conn Nalis.
	Union Mrg. Co., 90 Chambers, N. Y	Oxford Iron Co., si Washington, N. Y. Rowland Jas. & Co., 920 N. Delaware, Ave., Phila. Schoenberger & Co., Pittsburgh, Pa
7	Hardware Specialties. American Machine Co., 1925 N. 4th, Phila	Nail Machinery, Pittsburgh Mfg. Co., Pittsburgh, Pa
1	Suencer & Underhill, 94 Chambers, N. Y	Nails. Oxford Iron Co & Washington, N. Y. Oxford Iron Co & Washington, N. Y. Rowland Jas. & Co 910 N. Delaware, Ave., Phila. Schoenberger & Co., Pittaburgh, Pa Zug & Co., Pittaburgh, Pa. Nail Machinery. Pittsburgh Mg. Co., Pittsburgh, Pa Yetsburgh Mg. Co., Pittsburgh, Pa Condit, Hanson & Van Winkle, Newark, N. J
2 3	Harness Snaps. Covert Mr. Co., West Troy, N. Y. Hay K nives. Holt Hiram & Co., East Wilton, Me	Nippermer C. H. & Co., io Cordinald, N. Y. Interchangeable Tool Co., of New York. Nerway Shapes, Rollers 9; Rowland Wm. & Harvey, Frankford, Philadelphia.4 Note Broker.
6	Hinges. Stanley Works, New Britain, Conn	Rowland Wm. & Harvey, Frankford, Philadelphia.4 Note Broker, Gallaudet P. W., 3 and 5 Wall, N. Y
5	Hog Ringers. Chambers, Bering & Quinian, Decatur, Ili	Rowland W.H. & Harvey, Frankford, Philadelphia. 4 Note Broker. Gallaudet P. W., 3 and 5 Wall, N. Y. Nuts. Bolis, etc., Makers of, Allentown Rolling Mill Co., Allentown, Pa. Haskell W. H. & Co., Pawtucket, R. I. Russell, Birdsall & Ward, Port Chester. N. V. Standard Nut Co., Pittsburgh, Pa. Sternbergh J. H., Reading, Pa. 4 Oil Nones.
	Hoisting Engines, Makers of. Crane Bros., Mrg. Co., Chicago, III	Russell, Birdsall & Ward, Port Chester, N. V
	Hoisting Machines. Box Alfred & Co., 312 Groon, Phila. Clem & Morse, 413 Cherry, Philadelphia. 38 Harrington Edwin & Son, Philadelphia, Pa. 41	Oil Stones. Boyd & Clase, 107th and Harlem River, N. Y
	Hollow Chilled Rolls. Totten & Co., Pittsburgh, Pa.,	Read, D. W. R. & Co., 2055 Walnut, Philadelphia Paint. Lake Superior Paint Co., Cleveland, Ohio
6	Hollow Ware, W. T. Wells, 76 Beekman, N. Y	Read, D. W. R. & Co., 2052 Wannut, Philadelphia. Philni. Lake Superior Paint Co., Cleveland, Obio. Patent Solicitors. Howson & Son, Phila. and Washington. D. C
	New York Haddle & Mairet Works, 495 E. Houston13 Horse Clippers. Boker, Hermann & Co 101 & 102 Duane, N. Y34 Clark W., 323 Oxford, London, England	Tracy Geo. C. & Co., Cheveland, O. & Pattern Letters, Knight H. W., Soncca Falls, N. Y. 32 Peus, Steel. Esterbrook Steel Pen Co., New York
1	Horse Nails, Makers of. Ausable Horse Nail Co., 4 Warren, N. Y	Esterbrook Steel Pen Co., New York
	Horse Nails, Mokers of. Ausable Horse Nail Co., 4 Warren, N. Y. 29 Beidzewater Iron Co., Bridgewater, Mass. 6 FP Nail Co., Cleveland, O. 36 National Horse Nail Co., Vergeunes, Vt. 25 Saranac Horse Nail Co., Plattsburg, K. Y. 12	ave., Philadelphia. Pianos. Beatty Daniel F., Washington, N. J.
1	Saranac Horse Nail Co. Plattsburg, N. Y. 14 Horse Shoesa, Makers of, Burden Iron Works, Troy, N. Y. 4 Hhode Island Horse Shoe Co., Providence, E. I. 37 Schoenberger & Co., Pittsburgh, Fa. 4	Planes, Pittles 2 Broadway, N. Y. Pines, Fittles 2 Broadway, N. Y. Pines, Fittles 2 Broadway, N. Y. Pines, Fittles 3 Co. Mokeys of, McNab & Harlin Mr. Co. 45 John N. Y.
	Rhode Island Horse Shoe Co., Providence, R. I	Pierson & Co., 22 Broadway, N. Y. Pipes, Fittings, etc., Makers of, McNab & Harlin Mfg. Co., 65 John, N. Y
	Hose (Lines). Eureka Fire Hose Co 13 Barclay, N. Y	Wood R. D. & Co., 400 Chestaut, Philadelphia30 Plane Irons, Manufacturers of. Ruck Bross, Millbury, Mass.
	Hydrants, &c. Relean John, 300 Monroe, N. V	Planes, Mosagucturers of. Stanley Rule and Level Co., 29 Chambers, N. Y. 16 Plated Ware, Hall, Elton & Co., 74 Chambers, N. Y. 16 Wm. Rogers & Son. Hartford, Ct. 17 Plumbers' Materials, Manufacturers of. Carr Wm. & & Ce., 106 Center, N. Y. 20 Everhart Jas. M. Scranton, Pa. 44 Plaws. 44
1	Hydraulic Jacks. Dudgeon Richard, 24 Cotumbia, N. Y	Hall, Elton & Co., 7s Chambers, N. Y
	White Mountain Freezer Co., Laconia, N. H36	
	Insurance, Boiler. Hartford Steam Boiler Inspection & Insurance Co41 Iron Brokers.	Columbia Plow Works, Copake Iron Works, N. Y. 42 Pocket K nives, Boker Hermann & Co to Duane, N. Y. 34 Presses, Fruit and Vegetable. Mohawk & Hudson Mfz. Co Waterford. N. Y. 35 Presses, Power, Makers of. Hiss & Williams, 15 Flymouth, Brooklyn 40 Corriman A. H. 188 Meriden, Com. 44 Forsting A. F. 188 Meriden, Com. 44 Forstiles & Parker Press Co., Middletown. Ct 44 Power it aumners. Forsith, S. C. & Co., Manchester, N. H. 38
	Boynton Geo. A., 70 Wall, N. Y	Mohawk & Hudson Mfg. Co., Waterford, N. Y25 Presses, Power, Makers of. Bliss & Williams, 167 Plymouth, Brooklyn
	Hatry A. G. Friesburgh. Fas. 1 rem. Charconi. Warm or Cold Binst. Quincy John W. 6 William N. Y. 1 rem Commission Merchanus. Balley J. F. & Co., 52 Wall, N. Y. 5 cowe S. B. C. Charlandon, Philadelphia. 6 Richas B. C. B. Charlandon, Philadelphia. 5 Wiser L. & K., 33 Walnut, Philadelphia. 5	Merriman A. H., West Meriden, Conn. 47 Peerless Punch & Shear Co., 52 Dey, N. Y. 41 The Stiles & Parker Press Co., Middletown, Ct. 41
	Bailey J. F. & Co., 57 Wall, N. F. Lowe S. B., Chattanooga, Tenn. 6 Richardson J. O., 232 Dock, Philadelphia. 5	Power Hammers. Forssith, S. C. & Co., Manchester, N. H
1	Swan John E. & Bro., Glasgow, Scotland	Brown A. & F., 57 Lewis, N. Y
1	Iron Dealers. Abeel Grothers, 290 South, N. Y	Providence Tool Co Providence, R. I
l	Williamson James & Co., 50 Wall, N. Y. Iron Pealers. Abeel Brothers, 100 South, N. Y. Bonnell, Botsford & Co., Youngstown, O. Borden & Lovell, 70 and 71 West, N. Y. Carmichael W. J., 130 and 131 Gedar, N. Y. Cooney Daniel F., 88 Washington, N. Y. Harrison & Gillion, vg to see Water, N. Y. Hoffman J. W. & Co., 268 S. Fourth, Philadelphia, 5 Judson B. F., 457 and 490 Water, N. Y. Kane C. Pittsburgh, Fa. Lundberg Guistaf, & Kilby, Loston, Mass. Clerson & Co., 24 Broadway, N. Y. Fullman J. Wesley, Philadelphia, P. Quincy John W., & William, N. Y. Wallace Wm. H. & Co., 24 Man, N. Y. Wallace Wm. H. & Co., 24 Man, N. Y. Warner A. B. & Son, 26 and 30 West, N. Y. Williamson James & Co., 69 Wall, N. Y. Vene, G. R. & Hudson, N. Y. Vene, G. & Hudson, N. Y.	Providence Tool Co. Providence, B. I. 88 Pumps, Makers of. Add Pump & Siphon Co., New London, Conn. 16 Douglas W. & B., Middletown, Conn. 27 Gunison, A. B., Erie, Penn. 37 Gunison, A. G., G., G., G., G., G., G., G., G., G.
l	Harrison & Gilloon, set to see Water, M. Y. Hoffman J. W. & Co., 206 S. Fourth, Philadelphia S. Ludson B. F., 457 and 480 Water, M.	Union Mfg. Co., 68 Chambers, N. Y. Rails. Iron and Steel. Makers of.
	Kane C. Pittsburgh Pa. Lundberg Gustaf, & Kilby, Boston, Mass	Cambria Iron Co., Johnstown, Pa
	Pierson & Co., 24 Broadway, N. Y	Rivets, Gilmor Wm., of Wm., Baitimore, Md 42 Grundy, Geo. C 164 Greenwich, N. Y. 17 Townsend W. P. & Co. Pittsburgn, Pa. 13
	Richards D. W. & Co., 92 Mangin, N. Y	Townsend W. P. & Co. Pittsburgh, Pa
١	Williamson James & Co., 69 Wall, N. Y	Rock Drille, Weaver W., Phoenixville, Pa
		Rolls (Chilled). Garrison A. & Co., Pittsburgh, Pa
	Albany & Hensselaer Iron & Steel Co., Troy N. Y34 Bradley, Reis & Co., New Castle, Pa	Stanley Rule and Level Co., 20 Chambers, N. V 16
1	Burden Iron Works, Troy, N. Y. Condit, Wick & Co., Cleveland, Ohio	Chalfant Mfg. Co., 435 Arch, Philadelphia
1	Kirkpatrick, Beale & Co., Pittsburgh Pa	Baeder, Adamson & Co., 730 Market, Philadelphia
1	Phoenix Iron Co., 410 Wainut, Philadelphia	Saws, Makers of. American Saw Co., Trenton, N. J
1	Rowland James & Co., 930 N. Delaware ave., Phila. 5 Rowland Wm. & Harvey. Philadelphia	wheeler, Madden & Clemsen Mfg. Co., Midale- town, N. Y
	Levis, Henry & Co. Philadelphis, Pa. From. Manufucturers of on & Steel Co. Troy N. Y. M. Albany & consected of the New Castio Pa. Head of the Co. Philadelphis of the Co. Troy N. Y. M. British of the Co. Cleveland. Onlo. Burden I ron and Steel Co. Cleveland. Onlo. Burden I ron Works, Troy, N. Y. Condit, Wick & Co. Cleveland. Onlo. 4 Hirkpatrick, Beale & Co., Pittaburgh Pa. 4 Leonard John, 40 and 45 West, N. Y. North Chicago Rolling Mill Co., Chicago, Ill. 5 Portsmouth I ron and Steel Co. Portsmouth, Onlo. 4 Roviand James & Co., 92 N. Delaware ave., Philia Condition of the Co. Portsmouth on the Co. Roviand James & Co., 92 N. Delaware ave., Philia Coviand James & Co., 92 N. Delaware ave., Philia Coviand Wm. & Harvey, Philadelphia 4 Roviand Wm. & Harvey, Philadelphia 5 Stephand Wm. & Harvey, Philadelphia 6 Co. Pittaburgh, Pa. 7 Stephand Rolling Mill Co., Paterson, N. J. 6 Ulster I ron Works, os Broadway. 7 U. S. Iron and Tin Piate Co. Pittsourer, Pa. 4 Wood Alian & Co., 510 Arch Philadelphia. 5 Zing & Co., Pittaburgh, Pa. 7 Jon, Planialned Sheet, Manufucturers of.	Saws, Band and Scrott. Kimball & Kimball, 639 Arch, Philadelphia25 Scales. Manufacturers of. Chatillon John & Sons, of Cliff. N. V.
	U. S. Iron and Tin Plate Co., Pittsburgh, Pa	Chatillon John & Sons, or Cliff, N. Y
	Wood W. D. & Co. Fittibutkii, Fitti-	Screws. Makers of. Miles F. S., 205 Quarry, Phila
1	Jack Screws. Wynn, R. D., Windsor, Vt	Screw Cutting Machinery. Wiley & Russell Mig. Co., Greenfield, Mass
*		29

*	н	\mathbf{E}	1	\mathbf{R}	O	N	A	G	E
1	ante:	rns. A	lanufe	acture	rs of	v			ls.
									. 42 . 7 S
1	Johnse Jevetir Bickne	on. Jr.	Israel trum omsto	H. & tents ck, 27	Co., I	Philade ren, N.	lphia Y		·37 ·38
1	Dissto	n Heni Manu	factu	ons., l	Philad	lelphia		Doorle	.29
	lvn, i Hillebi Romer	E. D	Wolf	, mos	. 8th,	Philad	clohia	Breok	16 9 10
I	Smith Yale L ubric	& Egg ock M	é Mfg. fg. Co	Co.,	Bridge hamb	eport, (ers, N.	Conn		
	Harne	r Sitear	Makes	ricators of.	mont	Westv	ille, Cor	nn	26
	Box Al Cooke Cuyah	Wm., oga W	Co., 6 Cort orks,	landt Cleve	een, F , N. Y land,	hila Ohio	klyn	*****	41 S
	Landis L. B. Phila Forsal	Fland	ers M	achin	e Wo	rks, 10	2s Han	ilton	32 S
	Garvin Mohaw Pittsbi	n E. E. vk & H urgh M	& Co. udsor Ifg. Co	130 C Mfg.	Co., V	N. Y. Waterfe	H ord, N. 1 1 iladelpletown, c	Y	40 29 41
	Pratt & Sellers The St	Wm.	ney C & Co., Parke	60., Hi	artfor Iamil ss Co	d, Conston, Ph. Midase	iladelpi stown, c	ila	40 41 41
7	Little	Chas.	C., 50 I	ultor	. N. Y	Lowe	F.0)		16 8
I	Iachi Hartfo Fellow	ne Ser rd Ma s John	chine , Will	Screv Screv	v Co., burg,	Hartfe N. Y	ora, Con	n	33 38
Y	I a chin Blaisde	ists'	Tool	Worce	ester.	Mass	an		5 8
	Cooke The Ge	Wm.,	6 Cort	landt chine	N. Y ry Ag	ency, i	21 Chan	bers,	36
	ave., King J	Philac.	lelphi Co	a, Pa.	ford.	N. Y.	rennsy	ivania	41 B
*	Hamm Lallet	er & C	o., Br	anfor	d, Con	fakers	of.		36
	Penfiel	landle ld Bloc	and M	fallet rks, L	Work	18, 456 F ort, N. 3	Houst	on	13 8
N,	Pyrolu Lechai Jennin	site Maica' '	nngan Fools E. & Co	ese C	0., 54 (Thaml	chiff, N. bers, N.	Y Y brooklys		26
Y	Eddy G Leat C	eo. M.	a Co.,	353 Ci	asson	Ave., B	rooklys	a, N.Y.	29 St
Y	Silver a letals. Dicker	& Dem	ing M	itg. Co	Co., Sal	em, O.	Cliff.	v. v	8
	Graves Phelps Phosph	O. W. Dodg or Br	& Co.	o., cor. Smelt	Cliff ff, bet ing C	John &	cliff. ? ekman Fultor Washi	N. Y.	4 3
	Purves Quincy	A. & S. J. W.	on, co	or. So	uth an	d Peni	, Phila		4 1
	Seliew Starr J Letalli	R. &. Cohn. F	Co., Stalifa	Lou x. No	ils, Mo	sia	Washi o, Phila hita		3 4
7	roncla etalli Booth,	d Man irgist Garre	ufact tt & B	uring lair, 9	Co., 2	ant, Ph	N. Y Iladelph idelphia	a.	5 4
•	Poole &	k Hunt	, Balt	imore	vainu 	t, Phila	delphia		5 Si
*	Philad	elphia	Nove	Ity M	fg. Co	., 821 Cl	erry, P	hila	0 8
Y	linera Elbera	Alexa	ol. nder l	0. 26%	(Bros	dway	n, N. Y. N. Y		8 1
M	Whiter louse Dietz R	Trap	ros., s	17 W. 16 Fult	reth, l	N. Y		• • • • • • •	4
	Dietz R M. A. F Oliver Ripley	mig. c	D. UE	TIOEV	IDD, C	OBB			T
7	alis. Oxford Rowlan	Iron and Jas	Co., 81	Was	hingte N. De	on, N. Y	rk, N. J	Phila.	4 1
N	Zug & (Co., Pitachin	tsbur ery.	gh, P	tsbur	gh. Pa.	*******		1
N	ickel Condit, Zucker	Plate Hans & Lev	on & vett, 6:	upp! Van W 10 and	inkle far W	News	rk N. J	r	13
N	Delama Interch	ter C.	H. & o	Co., 10 col Co	Cort	landt, 2 iew Yo	rk Philade		43
N	Rowlar ote B Gallau	roker let P.	W., 34	arvey,	Fran Wall.	kford,	Philade	lphia.	42
	nts, E Allento Haskel	wn Re W. H	etc lling & Co	Make Mill (rs of. Co., A	llentov	vn, Pa	******	5 29
	Standa Sternbe	rd Nut	Co., 1 H., R	ward. Pittsb eadin	Port urgh, g, Pa.	Pa	P. N. V.		36 42
	Boyd & res. Chester	Chase Iron	Co., 40	and :	Harle:	m Rive: Philade	r, N. Y	*****	34
	nint. Lake St	aperio	r Pain	t Co.,	Cleve	eland,	hiladeli Ohio	hia	6
-	Howson Stetson Tracy 6	Thomseo. C.	a. Phi as D.,	la. an 23 Mu Cle	d Wa	N. Y.	n. D. C.		8 8
	Knight	H. W.	Sene	ca Fai	11s, N.	Y		3	32
	Phosph	or Bror Brillad	onze elphi	Smelt	ing C	0., 2038	biladeig Obio m. D. C.	ngton	
7	anos.								. 0
-	nerson nes. I McNab	Fitting	rs. et in Mf	g. Co.	av. N. lakers , 56 Jo	of. hn, N.	Y hia		4
-	pe. W	vater s & Ar	and cher,	tvas. Burlir	Make Igton, estnut	N.J.	lelphia.		6
1	ane I Buck Bi anes,	rons, M Manu	Manu ilibur factu	factu y, Ma rers q	rers q	f.	ers, N.	3	36
-	inted Hall, El	Ware ton &	Co., 74	Char	nbers	N. Y.	ers, N.		16
1	ambe Carr W Everha	rs' M m. 8. 8 rt Jas.	nteri Co., M., Sc	nls, 106 Ce	Manu nter, n. Pa	N. Y Ct fucture N. Y	rs of.	3	16
	lows. Columb ocket	da Plo Kniv	w Wo	rks, C	opak	o Iron \	Works,	N. Y	12
	doker k resses Mohaw	Frui	t and	Ver Mfg.	retab Co., W	ne, N. 7 le. aterio	Vorks, i	3	19
-	Bliss & Corrima Poerless	Willia an A. I	ms, 16 L., We h & Sl	7 Plyi est Me	nouth ariden	Brook Conn Dev. N.	lyn		10
1	he Still wer forsait	es & P. Hami h, S. C.	arker nera. & Co.	Press,	Co., I	diddlet or, N. E	own, Ci	9	8
-	afleva							4	1
-	rovide	nee To	ol Co.	. Prov	riden	rt, N. Y. Se, B. I.	Conn	3	8
ICE	ouglas Junnisc Jumsey	W. & OB, A.	B., Mi B., Eri Sene	ddlete e. Per ca Fa	own.	Y	, Conn	3	7 2 2 7
HIL	mion M	I. M. Ifg. Co	& Co., ., o8 C	st. L. hamb	ouis, l ers, N Make	Y	*******	3	8 7
COST	levela	nd Roi Edw.	Co., Ji ling h	Onnst IIII Co 232 W	own, o., Cle	veland, Phila	Ohio	3	5
1100	lvets.	Wm., Geo	of Wn	n., Ba	itimor	re, Md	iway, N	. 1 3	2
ĕ	DCK IS	rea Ko	Two n	Worl	be	Canal	Whi an me		
1	Veaver	rille. W. P	hoenia	rville,	Pa		······	4	1
Ι	ubois)	M. N.,	821 Cl	erry.	Phila	delphi	A	T	
8	tanley	Rule a	nd Le	vel C	0 20 (Chambe	es. N. V		6
B C P	halfan nterpr	t Mfg.	Co., 4	35 Arc	h, Ph	iladelp	hia		6
E	aeder.	Adam	sou &	Co., 7	30 Mai	ket, Ph	illadelp	hin	_
₽	unerics	III Saw	CO.,	rent	H. N.	d		**** 3	0

ythes. eardsley Scythe Co., West Winsted, Conn32 ythe Stones.	Field A. & Sons, Taunton, Mass Grundy Geo. C 16t Greenwich, N. Y Taps and Dies.
eardslev Scythe Co., West Winsted, Conn. 32 ythe Stoness. 'ike A. F., East Haverhill, N. H	Taps and Dies, Carpenter J. M. Pawtucket. R. I. Manning H. S. & Co., 111 Liberty. N. Y. Wiley & Russell Mfg. Co., Greenfield, Musb
leld Alfred & Co., 93 Chambers, N. Y	Purvis R. C., Philadelphia
	Wiley & Russell Mfg. Co., Greenfield, Mass Tea Pots. Purvis R. C., Philadelphia. Tin Plate, Importers of N. & G. Taylor Co. Philadelphia. Tin Plate, Manufacturers of. Monitor Tin Plate Works, 54 Cliff, N. Y. C. S. Iron and Tin Plate Co., Pittsburgh, Pa Tin Wure, Stamood and Japanned Shepard Sidney & Co., Buffalo, N. Y. Toe Calks.
overs, Spades and Scoops. lussey, Binns & Co., Pittsburgh, Pa	Shepard Sidney & Co., Buffalo, N. Y
utters, Steel and Wood, lark & Co., 162 W. 27th, N. Y. elting Works, hiladelphia Smelting Co., 12th and Noble sts.	Toe Calks. Ives, Woodruff & Co., Mount Carmel, Conn. Tools, Railroad and Mining. Metcaf. Paul & Co., Pitteburgh, Pa.
hliadelphia Smelting Co., 12th and Noble sts., Philadelphia	Tools, Turpentine. Chater R. Dundas, 187 Pearl, N. Y
ermont Snath Co., Springfield, Vt	Bruce Geo. W., 1 Platt. New York
etter. 32 etter. 22 anning & Squier, 113 Liberty, N. Y. 2 sgood F. & Co., Bergen Port, N. J. 32	Dudgeon Richard. 24 Columbia. N. Y
oons.	Twist Drills, Makers of. Morse Twist Drill & Mach. Co., N. Bedford, Mass
arey & Moen, 234 W. 20th, N. Y.	merchant & Co., 69 Market, Phila. Twist Drilla, Makers of. Morse Twist Drill & Mach. Co., N. Bedford, Mass Uphotsterers' Goods. Turner & Seymour Mfs. Co. 8: Reade, N. Y. Valves, Gas, Water and Steam, Lutlow Valves, Groy, N. Y Mohawk & Hudson Mfs. Co. Waterford, N. Y
owiand Wm. & Harvey, Frankford, Phila. 42 am Boilera. abcock & Wilcox, 30 Cortlandt. N. Y. 40 selie Boiler Works, Jersey City, N. J. 25 ram Hammers, &c., Makers of, udgeon Richard, 22 Columbia, N. Y. 9 ram Hammers, &c., Makers of, udgeon Richard, 22 Columbia, N. Y. 9 ram Pumps &c., Manufacturers of, amerous B. 25 layton Steam Pump Works, 14 and 16 Water st. Brooklyn, N. Y. 9 ram Bros. Mg. Co., Chicago, ill. 9 city Wm. E., 40 Cortlandt. N. Y. 9 city Wm. E., 40 Cortlandt. N. Y. 9 city Wm. E., 40 Cortlandt. N. 41 corer G. W., 132 N. 30, Philadelphia. 40 rester Steel Castings Co., Ereling, Phila. Pa. 40 rester Steel Castings Co., Ereling, Phila. Pa. 40 rester Steel Castings O., Ereling, Phila. Pa. 40 rester Steel Castings O., Ereling, Phila. Pa. 40	Wentilators. Bracher Ventilator Co., 3 Park Row, N. Y Bristol A. M., Hochester, N. Y Vises.
ram Hammers, &c., Makers of, udgeon Richard, 24 Columbia, N. Y.	Water Wheels.
ameron A. S., East 23d, N. Y. layton Steam Fump Works, 14 and 16 Water st Brooklyn, N. Y.	West Reading Pipe and Mach. Works, Reading, F Wenther Strips. Bracher Ventilator Co., 3 Park Row, N. Y
rane Bros. Mfg. Co., Chicago, III. 9&40 elly Wm. E., 40 Cortlandt, N. Y eGowan John H. & Co., Cincinnati, O. 41	White Lead, White Lead,
cel Castings, Manufacturers of. hester Steel Castings Co., Evelina, Phila., Pa42	West Reading Fipe and Mach. Works, Reading, I Weather Strips. Bracher Ventilator Co., 3 Park Row, N. Y. Wheels, Hailrend, Whitney A. & Sons, Philadelphia. Whitney A. & Sons, Philadelphia. Hooklyn White Lead Co., 85 Maiden Lane, N. Y. Colgate Robert & Co., 287 Pearl, N. Y. Jewett John & Sons, 182 Front, N. Y. Jewett John & Sons, 182 Front, N. Y. Window Hainstees. Hugunin Robt. B., Wethersfield, Conn. Window Springs, Makers of.
rel Castings, Manufacturers of. leaster Steel Castings Co., Evelina, Phila., Pa. 42 lags a Cast Steel Co., Choster, Pa. 45, yd., Phila. 42 lags a Cast Steel Co., 216 and 218 N. yd., Phila. 42 littsburgh Steel Casting Co., Pittsburgh, Pa. 42	Window Balances, Hugunia Robt. B., Wethersfield, Conn.
rel Importers. arr J. & Riley, 82 John, N. Y	
### A	Cary & moen, 24 W. 20th, N. Y Cleveland Rolling Mill Co., Cleveland, Ohio Gautier Steel Co., Ld., Johnstown, Pa.
oli (N. H. & Co., to Chir, N. Y	Griswold J. Wool, Troy, N. Y. Haigh J. Lloyd, St John, N. Y. Harrison Wire Co. St. Youls, Mo.
bany & Rensselaer Iron & Steel Co., Troy, N. Y. 34 tha, Benjamin & Co., 21 Pearl, N. Y	Howard & Morse, 45 Fulton, N. Y. Her Wm. F. Troy, N. Y. Prentiss Geo. W. & Co. Holyoke, Mass
sel Ma Nation (1978) sel Ma Nation (1978) sel Ma Nation (1978) blany & Rensselner Iron & Steel Co., Troy, N. Y. 31 tha, Renjamin & Co., 211 Pearl, N. Y. sel Reveland Rolling Mill (0., Cleveland, 0.) sel develand Rolling (0., Cleveland, 0.) sel develand Rolling (0., 268, 268, 268, 268, 268, 268, 268, 268	Halmmond W. S., Lowisberry, Pa. Wire, Manufacturers of. Cary & Moen, 24 W. 20th, N. Y. Cleveland Koiling Mill Co., Cleveland, Ohio. Oautier Steel Co., Ld., Johnstown, Pa. Gilbert & Bennett Mrg. Co., 23 Pearl, N. Y. Griswold J. Wool, Troy, N. Y. Haigh J. Lloyd, & John, N. Y. Haigh J. Lloyd, & John, N. Y. Harrison Wige Co., St. Louis, Mo. Her Wm. F. Troy, Filton, N. Y. Prentiss Geo. W. & Co., Holyoke, Mass Trenton aron Co., Trenton, N. J. Washburn & Moen Mrg. Co., Worcester, Mass. Wire Drawing Machinery.
iller, Metcalf & Parkin, Pittsburgh. 33 ennsylvania Steel Co., 268 S. 4th, Phila. 6 owland Wm. & Harvey, Frankford, Phila.	Adt John, New Haven, Ct
anderson Geo. & Co., ∞ Gold. N. Y. 31 mith, Sutton & Co., Pittsburgh, Pa. 34 Inger. Nimick & Co., Pittsburgh. Pa. 6	Wire Goods, Manufacturers of. Dufur & Co 5 N. Howard St Baltimore. Md Gilbert & Bennett Mfg. Co 573 Pearl, N. Y. Ollver E 106 and 108 Beekman St N. Y.
pencer J. R. & Son. Sheffied. England	Wire Nails. American Wire Nail Co Covington. Ky Dunbar, Hobart & Whidden 39 Warren, N. Y
ardiow S. & C., Shemeld, England	HP. Nail Co., Cleveland. Ohio
auer & Co., 96 Greenwich ave., N. Y	Broderick & Bascom, St. Louis, Mo Haigh J. Loyd, &ı John, N. Y. Hazard Mfg. Co., Wilkesbarre, Pa
olroyd & Co., Waterford, N. Y	Wrenchen, Manufacturers of. Bemis & Call Hdw. & Tool Co., Springfield, Mass. s.
ve Boards, Manufacturers of	Coes L. & Co., Worcester, Mass. Coes L. & Co., Worcester, Mass Girard Wrench Mfg. Co., Girard, Pa
hatilion John & Sons, oi and og Cliff, N. Y. scks and Dies. rmstrong F. Bridgeport, Ct	Oliver E., 106 and 108 Beekman st., N. Y. Wire Naila American Wire Nail Co., Covington, Ky. American Wire Nail Co., Covington, Ky. Fleida, A. Sons, Taunton, Mass. HP, Nail Co., Cleveland, Ohlo., Wire Rope, Iron and Steel, Makers of, Broderick & Bascom, &t. Louis, Mo., Haigh J, Loyd, &t. John, N. Y. Hazard Mfg, Co., Wikesberre, Pa. Roebling's John A. Sons, Trenton, N. J. Wrenches, Manufacturers of, Bemis & Call Hdw. & Tool Co., Springfield, Mass., Coos A. G. & Co., Worcester, Mass. Coos L. & Co., Worcester, Mass. Coos L. & Co., Worcester, Mass. Coos L. & Co., Worcester, Mass. Vsn Wagoner & Williams, & Beekman, N. Y. Wood Working Muchinery, Forsaith, S. U. & Co., Manchester, N. H.
oker Alarm Till Mfg. Co., Indianapolis, Ind16	Metropolitan Washing Machine Co., 52 Cortiano
merican Tack Co Fairhaven, Mass 8 unbar, Hobart & Whidden, 39 Warren, N. Y 7	Poeriess Wringer Co., Cincinnati, O
THICKER &	IEVETT

ZUCKER & LEVELI, NICKEL PLATERS' SUPPLIES.

Estimates for Complete Outfits Furnished. 339 & 641 West 51st Street, New York. GREENFIELD TOOL

Greenfield, Mass., U. S. A.,

MANUFACTURERS OF



oiners' Bench and Moulding Planes OF EVERY DESCRIPTION.

PARKER'S PATENT CONCAVE OX SHOES.



Fine Table Cutlery.

CARVERS A SPECIALTY.

H. PRENTISS & COMPANY,

Goddard's Patent-Relieved Machinists', Blacksmiths' and Gasfitters' Taps. Solid Reamers.

Screw Plates and Dies.

Dealers in Machinists' Supplies.

14 DEY STREET, New York. EMPIRE FORGES IMPROVED without Belts, Bullows, Crank Pins, Dead Centers or Back Motion. Send for circular. EMPIRE PORTABLE FORGE CO, COHOES, N. Y.

B. KREISCHER & SONS,

FIRE BRICK.

Affice, foot of Houston Street, East River,

NEWTON & CO.,

PALMER, NEWTON & CO., ALBANY, N. Y., Manufacturers of

BRICK Stove Linings,

Range and Heater Linings Cylinder Brick, &c., &c.

M. D. Valentine & Bro

FIRE BRICK **And Furnace Blocks**

DRAIN PIPE & LAND TILE. Woodbridge, - - - N. J.

PERTH AMBOY TERRA COTTA CO.,

A. HALL & SONS, Perth Amboy, N. J. ARCHITECTURAL TERRA COTTA

FIRE BRICK.
170 Broadway, NEW YORK.

Brooklyn Clay Retort

FIRE BRICK WORKS.

Watson Fire Brick Manufactory

ESTABLISHED 1836. JOHN R. WATSON. Perth Amboy, New Jersey.

FIRE BRICK,

For Bolling Mills, Blast Furnaces. Foundries Gas Works, Lime Kilns, Tanneries, Boiler and Grate Setting, Glass Works, &c.
FIRE CLAYS, FIRE SAND, AND KAOLIN FOR SALE

HENRY MAURER,

Excelsior Fire Brick & Clay Retort Works,

Manufacturer of FIRE BRICK, HOLLOW BRICK AND CLAY RETORTS. WORKS PRETI ARROY, NEW JERSEY Office & Depot: 418 to 429 East 23d St., N. Y

TROY FIRE BRICK WORKS JAMES OSTRANDER & SON,

ESTABLISHED 1848, Manufacturers of

FIRE BRICK,

Tuycres, Tiles, Blast Furnace Blocks, etc. Miners and Dealers in Woodbridge Fire Clay and Sand, and Staten

CARDNER BROTHERS, MANUFACTURERS OF

STANDARD SAVACE

Fire Brick, Tile & Furnace Blocks. OF ALL SHAPES AND SIZES.

Clay Gas Retorts and Retort Settings,

Miners and Shippers of Fire Clay.

OFFICE: 376 Penn Ave., Pittsburgh, Pa. WORKS: Mt. Savage Junction, Md., and Lockport, Pa

BORGNER & O'BRIEN,

Fire Bricks,

Clay Gas Retorts, Retort Settings,

Tiles, Blocks, &c., &c. 23d St., below Vine,

PHILADELPHIA

CYRUS BORGNER.

MILLER'S BRICK PRESSES

FIRE and RED BRICK,

And Brickmakers' Tools in General. SAML. P. MILLIER & SON, 309 South 5th St., Philadelphia.

W. & J. TIEBOUT,

Brass, Galvanized & Ship Chandlery Hardware,

No. 200 Pearl Street, New York,



"DRAW CUT" BUTCHERS' MACHINES. Choppers, Hand and Power Stuffers, Lard Presses.

MURRAY IRON WORKS, Burlington, Iowa.

DUC'S IMPROVED

NICHOLSON FILE CO.,

FILES AND RASPS.

Filers' Tools & Specialties.

Manufactory and Offices at Providence, R. I.

The following space will be used in illustrating our specialties, the matter being changed weekly.

IMPROVED BUTCHERS' STEELS.

Patented December 25th, 1877.

REGULAR STEEL.

PATENT STEEL.

BENT RIFFLERS—Handled.

HAND BASTARD.

ROUND RASP.

FLAT FLOAT (Safe Sides).

BREAD RASP.

JIG RASP.

Full Size.

ROLLER FILE.

Full Size-12 inches.



THE STORE-HOUSE BUCKET. In 19 in., 14 in., 16 in. and 17 in. Sizes.

Send for Circular.

No Corners to Catch.

Light Running and Very Durable. The only Scientifically Constructed Elevator Bucket in the Market.

ROWLAND.

Sole Manufacturer,

WORKS, Brooklyn, E. D., N. Y.

CONTINENTAL



The MILL BUCKET.

In 3½ in. to 10 in. Sixes.

MANUFACTURERS OF Pure White Lead, Red Lead, Litharga, Orange Mineral, Linseed Oil, AND PAINTERS' COLORS

John T. Lewis & Bros

No. 231 South Front St.,

PHILADELPHIA.

LEW18

Brooklyn White Lead Co.



White Lead, Red Lead & Litharge. 89 Meiden Lane, NEW YORK. FISHER HOWE, TREASURER.

JOHN JEWETT & SONS

WHITE LEAD.



ALSO MANUFACTURERS LINSEED OIL. 182 Front Street, NEW YORK.



The Atlantic White Lead and Linseed Oil Co.,

White Lead (Atlantic), Red Lead, Litharge & Linseed Oil. ROBERT COLGATE & CO., 257 Pearl Street, New York



DUNBAR BROS.,

Clock Springs and Small Springs BRISTOL, CONN.

Torrey's Door Springs. P. R. DUNNE. Manufacturer.

PIANOS Stool, Cover and Book only \$143.75.
Organs, 13 Stoops, 3 set Reeds, Stool,
Book, only 808. Paper free.
DAN'L F. BEATTY, Washington, N.J.

Bradley's Edge Tools.

Butchers' Cleavers, Butchers' Choppers, Axes and Hatchets Grub Hoes and Mattocks, Mill Picks, Box Chisels and Scrapers,

Ax Eye Bush Hooks, Socket Bush Hooks, Watt's Ship Carpenters' Tools, Carpenters' Drawing Knives, Coopers' and Turpentine Tools.

MARTIN DOSCHER, Agent, 96 Chambers Street, N. Y.



Easthampton, Ot Manufacturers of SLEIGH BELLS

Established 1838

Beyin Bros. Mfg.

Co.,

House, Tea. Hand. Gong Bell &c. FellMetal Estiles.

HENRY DISSTON & SONS

KEYSTONE SAW, TOOL,



STEEL and FILE WORKS,

Front and Laurel Streets, Philadelphia,

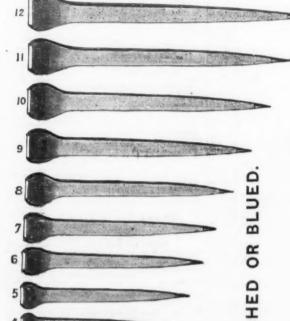
MANUFACTURERS OF

SAWS OF ALL KINDS, FILES AND TOOLS, AND SPECIAL GOODS MADE FROM SHEET STEEL

All goods stamped Henry Disston & Sons, and bearing our trade mark, are fully warranted.

Branch Works, Tacony, Philadelphia.

Branch House, Randolph & Market Streets, Chicago, Il!.



AUSABLE HORSE NAILS, Twisted, Bent and Drawn

Hot Forged and Cold Hammered Pointed,

Are the only Nails in market that are made in imitation of the Hand Process. They have the uniformity of Machine Nails and the toughness of those hammered by hand Our

HOT FORGED AND COLD HAMMERED POINTED NAILS Are the Standard Nails.

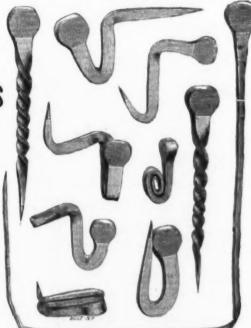
and are acknowledged to be the best in the market. They are used by the best shoers in New York, Brooklyn, Philadelphia, Chicago, Saint Louis, Milwaukee, Baltimore, &c., and

GENERALLY THROUGHOUT THE UNITED STATES.

They also compete successfully in Foreign Countries with machine and hand-made Nails of their own manufacture.

AUSABLE HORSE NAIL CO.,

4 Warren St., New York.





WM. H. HASKELL & CO.,

MANUFACTURERS O



Machine and Plow Bolts, FORGED SET SCREWS,

TAP BOLTS.



Bemis & Call Hardware & Tool Co.

nes are made from the best of Wrought Iron, with Steel Head and Jaw, case-hardened not only combine all of the superior qualities of our Cylinder or Gas Pipe Wrenches ett. Combinations of a results Thus making a combination which has no

BEMIS & CALL HARDWARE & TOOL CO., Springfield, Mass.



IRON AND BRASS SCREWS.

Quality, finish and tests as to strength, guaranteed equal to any in the market.

With improved facilities and largely increased capacity for production, we hope to fill orders promptly.

Philadelphia Screw Co.,

Twelfth and Buttonwood Streets, PHILADELPHIA.



A Full Line of WOOD and WROUGHT IRON,

PENFIELD BLOCK WORKS, Lockport, N. Y.

Also, CARPENTERS' MALLETS, TEN-PINS and BALLS.

HENRY B. NEWHALL, Agent, 11 Warren Street, New York.





GEO. M. EDDY & CO.,

Measuring Tapes
of Cotton, Linen & Steel.

FOR ALL PURPORES,
351 to 353 Classon Ave. Brooklyn, N. Ye

New York Wholesale Prices, October 1, 1879.

HARDWARE.	Fas
- media	Loc
wright's B tolde over 250 ms 1096c	Ins
Armitage's Mouse Rolls A sagers and Bits. Conn. Valley Mig. Co. Douglass Mf. Co. Humphrevsville Mfg. Co. 8-cecher (French, Swift & Co). 8-iswold. Sobles Mfg. Co. 6-asyon's Fatent. Cook's, Ives'. Snell Mfg. Co. S. C. S. Augers. dis so&t 5 Cook's, Ives'. B. Machine. dis so&t 5 " B. Machine. dis so&t 6 " Jennins's Bits. dis 35 Patent Solid Head. Russell Jenning's Auger, Dowei, Machine. Dowel and Hand-Rail Bits. dis so&to 5 Russell Jenning's Auger, Dowei, Machine.	Spr
Humphrevsville Mfg. Co	Ge Se U
%"iswold Sobles Mrg. Co	U
Léon's, Douglass Mfg. Co. dls 50&5 \$ C'ook's, Ives' dls 45&10 \$ Snell Mfg. Co. s C. S. Augers dls 50&10 \$	Blin
" B. Machine. dis coëro 7 " C. S. Bits	
Patent Solid Head	
Russell Jennings' Car and Machine Bits, Boring: Machine and Millwrights' Augers, dis 25&10&10&10 &	R
ives "Jennings Bits. dis 33%&10 \$ Lewis Single Twist Bits. dis 40 \$ Angleway Bits. dis 40 \$	Hun Barg
Griswold's Patent Bits. dis 30 f Expansive Bits, Clark's, small, \$18; l'ge, \$25dis 25 f I was. 820-dis 23 b f	Hun
Machine and Millwrights' Augers dis 24&10&10&10 Imitation Jennings' Bits.	Bear
Douglas	Can
" Stearns' Adjust., \(\psi \) doz \(\psi_2 \) =	Lym Pool
" Diamond. F dos \$1.00 dis 25&10 % " Bee" dis 45&10 % " Bee" dis 45&10 %	No. 4 No. 6 Eure Sard
Ct. Valley Mig. Codis 30810 % Hartwell'sdis 60810810 % Douglass'dis 6081 of 8	Star.
Pench Swift & Co. dis 335 5	G. D. Doub Colt
Watrous Ship Augers	Musi F. L. E. B.
A wil Haits. S. wing, Brass Ferrule	E. B. Ca Ca Cotto
Peg Plain Top	Ca
Awis Sewing, Common. F gross \$1.55-dis 25 % Sewing, Best. P gross 1.40-dis 10 % Shouldered Peg. F gross 2.25-dis 15 %	Cast
** Patent Feg	Plate Deep
** Socket Scratch. \$1.000\$1.25 % doz—net Brad Sets, Alken's. \$4 doz \$1.20—dis 44.20 %	Ca Hotel Hum
A wis, Braid Sets, &cc. A wis Sewing, Common	Sarge Chi Trace
A xes. M. H. Jones & Co	Germ
Common (Guy C. Hotehkins, Field & Co.) B 3460	Onesd Galva Jack
Dalances.	Chi
tein. dis 74810 5	Red Blue. White
Extra Heavy dis tost; \$\ \text{White Metal.} \\ dis 70 \$\\ \text{dis 70 \$\ext{dis 70 \$\ext{dis 70 \$\ex	Chi
Glove (Cone's Pasent)	64
" Sarton's dis solto 5 Crank Taylor's dis solto 5 " Brook's dis 50 8	**
Connel's. dis control to Lever, Sargent's new list Dec., 76. dis control to s	range
Hand, Light Brass	
Western dis sector Cail Gas Common Wrought dis 5 C	Cin.
Western dis sækte \$ Cail. dis 25 Cow. Common Wrought dis 25 Cow. Common Wrought dis socke \$ Western dis socke \$ Western dis socke \$ Sargent's new list dis socke \$ Western dis socke \$ Western dis socke \$ Western dis socke \$ Dodge's Genutne Kentucky, new list Nos. 0 154 2 3 4 5 6 Hog dis \$ \$2 3 3 4 5 6 Hog dis \$ \$2 4 4 5 6 Hog dis \$ \$	44
Dodge's Genuine Kentucky, new list- Nos. o 1 12a 2 3 5 6 Hog 2 dis	: :
Yaw's Genuine. dis to 5	CHP
Hellows. Common. dis 45 5 Blacksmiths', Common. dis 25 5 Moulders. dis 25 6 Moulders. dis 25 6	Coci
	lobe.
Melting, Mubber. N. Y. Beiting and Packing Conew list net	Coff loard acrea
Extension, Earber's	elsor' meric rench he Sv
Hind statusters.—Domestic dos 83.co, dis 25 F	he Sv Com er do
#4.n dand's No. 2000, per eross. \$9.00 net old pattern # gross \$9.00 net old pattern # gross \$9.00 net old pattern.	Compa ompa allipe tvide
Bingonal	tvide
Barbed, 14 in. and larger	64 64
Differential Pulley Blocks	ook's keelsi iller'e
	Coop radie;
	Corn adsw Crov
#5018- Cast iron Barrei, Shutter, &c	on. St
Brass Knob, "dis 35&10 % 56	riing nebir
B. K. Flush. Com in. Staniev a	Curr teh's
"Plated K nob & Sidde Flash "dis cost 10 % Carriage and Tire, Common	wren
"Colemandis 60&10 @ fo&20 % W Shelton's(old list, dis 65 %	Curte hite l Cutle erider
Tire, Am. Screw Co.'s, Phila	n. Mil n. Mil n. R. W. R.
Star (Phila). GIB 00±10@to@to@to@to 8 Stove—American Screw Co.'s. dis 50 f " R. E. W dis 50 f	ron I
Plow	Dog t abous ather
tiorax	nss Joor rrey's ny's
with Augers 8.50 10.25 dis 45&10 5 Ge	
Alle 4 124 months against A appropriate	e Roo
	e Roo in (Co io. 1, io. 2, io. 3, i
	in (Co io. 1, io. 2, io. 3, io. 3, io. 3, io. 3, io. 4, io. 2, io. 3, io. 3, io. 4, io. 2, io. 3, io. 3, io. 4, io. 1, io. 2, io. 1, io. 1, io. 1, io. 1, io. 2, io. 3, io. 4, io. 1, io. 1, io
###RECES.—BEFOR TREET US 400% 3 O. S. Backus dis ock of C. S. Backus dis ock of C. Wisson affg. Co. dis ock of Spontou'd Patent dis ock of Volte's Patent dis ock of Volte's Patent dis ock of Volte's Patent Braces dis ock of Common Ball (American) dis 9 September 10 Sept	in (Co io. 1, io. 2, io. 3, inalie Japa Copp Galv Nick
Braces.—Barter rates dis società (C. S. Backus dis società (C. S. Backus dis società (C. Wilson Mfg. Co. M	m (Co io. 1, io. 2, io. 2, io. 3, i halie Japa Copp Galv Nick muur apani ickel r (Col
Braces.—Barter's rated dis society of S. Backus dis society of Wisson affg. Co. dis society	e Roo io. 1, io. 2, io. 3, io. 4, io. 5, 8, 6, Mo. 7, Loon a, io. 10, io. 4, io. 7, Loon a, io. 10, io.
Braces.—Barter's rated dis society of S. Backus dis society of Wisson affg. Co. dis society	m (Co. 1, 10. 2,
Braces.—Barter stated dis socios of S. Backus. dis socios wisson sifg. Co. dis socios spontoris patent. dis socios spontoris patent. dis socios spontoris patent. dis socios socios pres' patent. dis socios socios dis soci	m (Co. 10. 11. 10. 10. 11. 10. 11. 10. 11. 10. 11. 10. 11. 10. 11. 10. 11. 10. 11. 11
Braces.—Barter's raterial dis society O. S. Backus	m (Co. 1, 10. 2, 10. 2, 10. 3, 11. 11. 11. 11. 11. 11. 11. 11. 11. 11
### Control Co	e Rood m (Cc 60. 1, 10. 2, 10. 2, 10. 2, 10. 2, 14pa Copp Galv Wick emiun ickel mininickel mininick
### Reces.—Barcers rated dis society of S. Backens. dis society of Section of Sectio	e Rood m (Cc 60. 1, 60. 2, 60. 3, 60. 3, 60. 3, 60. 4, 60. 4, 60.
Braces.—Barcer states dissociated to S. Backens. dissociated Wilson Mfg. Co. dissociated to Sponton of Patent. dissociated to Sponton of Sp	e Rood In (Cc 10. 2, 1 10. 2, 1 Inhalie Copp Galv Nick Sick Copp Galv Copp Gal

New York Who	lesal
Fast Joint Narrow	Breast, Wilson's, Miller's Fa Miller's Fa Bartholom Ratcher, Merrill's Whitney Weston's Whitney S Hand I Wilson's Brill Stook a David Checks.
C Loose Pin, Writ dis to Spring Hinges American Spiral Spring Butt Co., Jap'd. dis to Fancy dis 10 Geer's Single and Double Acting dis 25 Sabin Mg. Co., Double Acting dis 25 Sabin Mg. Co., Double Acting dis 35	Moore's 7 Whitney's Hand I Wilson's Drill Stoc Automatic Boring Drill Chucks.
Union Spiral Spring, Japanned	Danbury. Lug Heaters. Dover. National. Family. Elevator Buck Mill E. Buckets, Ii
Union Mfg. Co. dils 35 Bommer's dis 25 Blind Butts, Parker dis 40k108 tok2 Seymour dis 70k10 Bhepard dis 50k109 Luli & Porter dis 60k210 Huffer dis 60k210 Huffer dis 60k210 Burfalo Noiseless dis 75k10 Burfalo Noiseless dis 75k10 Rew Plus.	Mill E. Buckets, he Storehouse. (Duc's Emery and En Genuine Chester—
"Burfalo "Noiseloss" dis 70 Sargent's No. 12. dis 70 Sargent Sargent & Co. Sargen	Washington Mills-Flour Wellington Mills, Hampden Emery G B. & A. Emery Pap
Describe die ache	Sance Pens
Duplex	Door Lock. Brass Thread. Wood. Fanucets. Fenn's. Fenn's Cork Stops.
Star \$ dox \$<.00 dis 25	Star Frary's Patent Petr Wood and Metallic West's Patent Key. Metallic Key. Leats Cork Lined. Enterprise (Self Me Pelloc Viates Files.
## St. 10	Files. American File Co Auburn Arcade. G. & H. Barnett. Nicholson Heller & Bros. Madden & Cockayse In Policy Care
Car Pasher.— Glah Carpet Siretchers. Cast Steel, Polished	Madden & Cockayn J. & Riley Carr. Stubs'. Butcher's. Walter Spencer & C Fisher's. Moss & Gamble.
Humason. Beckley & Co.'s (low list)dis costo &	Hoss & Gamble. H. Disston & Sons (n Western (new list(Limet & Co. Fronch Finiting Machin Knox, 4-inch Rolls
Sargent's Gas coato 5	Eureka, No. 1, 7-inch No. 2 s-inch Crown
Red # gross 750 net	Star Crown Jewel Domestic Fluter Geneva Hand Fluter Crown Hand Fluter Snepard Hand Fluter Clark's Hand Fluter Combined Fluter as
Buck Bros Bew list at 25	Combined Futer as Buffalo
## Buck Bros new list, dis 25 ## Merrill dis 70 ## Witherby Tool Co dis 70 5 ## Douglass dis 70 5 ## Douglass dis 70 5 ## Buck Bros new list, dis 26 ## Witherby Tool Co dis 70 5 ## Witherby Tool Co dis 70 5 ## Corner dis 70 5 ## Corner dis 70 5 ## Tauged Firmers dis 70 5 ## Spear & Jackson's dis 70 5 ## Spear & Jackson's dis 70 5 ## Buck Bros (Shanka S.00 6 8 5.25 to & ## Clamps ## Buck Bros (Shanka S.00 6 & ## Clamps ## Clamps ## Clamps ## Spear & Jackson's dis 70 5 6 ## Clamps ## C	Enterprise Mfg. Co Fry Pans Burnished, list as fol No
Clamps Grown Co.'s Wrt. Iron dla 25 Grown Frown Frown Co.'s Wrt. Iron dla 25 Grown Frown Grown	Wire Chapin " Smith's Patent Gimiets Nail and Spike "Bee " Gimiets "Diamond ' Gimiets "Diamond ' Gimiets
Norway or Best	" Hartwell " Ives " Douglass
Hacking	Family, Howe's Ear L. F. & C. s. "Ear Grindstone Fixts Sargent's Fatent Reading Hardware C.
French Steel	Ammers. Maydole's, New I Coency's, List Januar H. Hammonds. Verree. Wagnetic Tack, Nos. 1 Warner & Noble's. Kip's (new list, Dec. Hand Cuffs and Providence Tool Co.'s
	Providence Tool Co.'s Tower's
Excelsior	Barn Door. Wrought Chest. Burface Chest, Sargen
Corn Knives and Cutters.—Bradley's .dis 10 %	aw and Plane iaw and Plane iawmer and Hatcnet trad Awl
	ocket "Framing " lie, assorted, # gross uger, assorted, # gro large, atent Auger, Ives' Dougla
Curtain Plus.—Silvered Glass dis 15 %	Hangers. arn Door
3, 2	heritree. #inrness Samps. tenshaw'sList of a udd's' itch's (Bristoi) otchkiss' ndrews'. argent's
Door Springs- Orrey's Hod	tiatcheis. aiah Blood. Shingling, Nos. 1 2 3. Claw, Nos. 1 2 3.
	Shingling, Nos. 1 2 3. Claw, Nos. 1 2 3. Lathing, Nos. 1 2 3. urd's. Claw, Nos. 1 2 3. Claw, Nos. 1 2 3. Lathing, Nos. 1 2 3.
Mickeled	Shingting, Nos. 12 3 Claw, Nos. 12 3 Lathing, Nos. 12 3 M. Jones & Co. Shingting, Nos. 12 5 Claw, Nos. 12 5 Lathing, Nos. 12 5 Lathing, Nos. 12 3 Shingting, Nos. 12 3 Claw, Nos. 12 3 Claw, Nos. 12 3 Broad, Nos. 12 3 Broad, Nos. 5 7 8 Illina
bin's Boss, No. 1, \$4.40; 2, \$4.20; 3, \$3.60 dis cožio \$ bin's Crown	Shingling, Nos. 1 2 3
adley's dls 5,5 Ge fjustable Handle dis 20 \$ flustable Handle dis 20 \$ therby Tool Co dis 70 5 onclass dis 70 \$ Ge	Hay A nives. ightning " adaworth r. Hinges. ite, Western. N. E. Reversible. ite, Clark's Na. 1. X. Y. State. Automatic.
Acksmiths self Feeding each \$2.25 net acksmiths self Feeding each \$7.50, tin 27.5 east, F. S. W	Automatic. Common Sense Seymour's Shepard's

U	10	sa	10	1.	1 1	U	73,	,
. 4	Preast	Wilson	l'a			oach ®	dle	3 20
7 7 8 7 8	Ratche	Barthol	Fails omew's il's soll's	EXE ***	eacl	1, 82.50	dis asi	R 10
5%			ney's on's o's Triple ad Drill					
0 %	Whitn Wilson Autom	ey's Har 's Drill ! atic Bor	d Drill Stocks ing Tools			each &	dis dis 2.75, dis	10
MANA			stocks ing Took ksMor	se's Ber	ich Pa	sent	o.oc. dis	30
5%	E Do	Heater ver		p gross	842.0	o; di	08 \$4.00	n
MANA	Family Eleve Mill E.	ntor Bu	nckets. i, light, 3 i, heavy, nc's Pater	r gross	. \$33; in.	per do Duc's	E., \$3.00 Impro	ve
2 %	MIII E.	Buckets	, heavy,	5 to 10 l	nches dos	15.00 @ (Duc's \$4.60 @	\$54.00, Impro \$10.20,	ne ne
AMA	Eme	ry_and	Emery	Paper				
2 2 2	Washir	gton Mi	Flour flour in 10-1 ils—Regu our is, Grain Flour	b. cans			ac ex	rts D 8
70	Welling	rton Mil	ls, Grain Flour		******		P B Sc	ne
8	in the	11	Flour Paper				30 lis 20@	25
2/262	Sauce F		ans	1441 66			dis dis	45 35 35
*	Iron Brass	tcheon	Pins.				dis 33	23
MMM	Al month	ck	h.	Same di	scoun	ts as D		
× ×								
MM	Star Frary's	Patent I	ps etroleun llic	ů			dia 558:	10
c	AA COLF D T	SPACING W	W.J					2.4
e	Enterpr Fello Fites	ise (Seif	Measuri	ng)	¥ de	B 1	oo, dis :	55 5
K K	America	m FHe C				\$5,00 to	£, dis 3	15 9
5	G. & H. I Nicholso Heller &	Bros.	yne File	(2	iehol	son Li	dis 2 st) dis 3 £ dis 2	5 5
1	J. & Rile Stubs'	y Carr	yne File	Co		.87.00	7.50 to	0 #
11	Butcher's	Dencer /	k Co. 8 "	Diamoi	d "		4.50 \$4	
6	Fisher's. Moss & G H. Diasto Western	amble n & Son (new lis	n (new lint)	it)			qls 3	A 9
1	Finti Knox, 4-1	Co. (Fred	nch) htness lls				dis 3 .84.25 % each n	es
1	Peerless,	68 99	Rolls			4.00	each n	tot
. 1	Eagle, 35	6-Inch R	neh Roll neh Roll		*****	\$1.62%	each n	et
	Eureka.	No. 1, 7-1 No. 2 5-1 456-in.	nen Rou neh Roll , \$2.62\q;	-in83.	00;8-11	each,	dis 33½ dis 33½ each n	et
1	Crown Jo Domestic	wel. Fluter.	429	m., 83.	6 in	1. \$2. 50 1. \$0	each n	68
1	Jeneva I Crown H Shepard	and Flu Hand F	ater, No. ter, Nos. luter ter and Sad	I, \$12;	75 W	3, 88 à	o, dis 20 doz. n o, dis 10	et
9	clark's H	and Flu	ter	iron	. W do	# #15.0 OK 15.0	o, dis 20 o, dis 30	*
1	Fintin Forks	g ricina	ors			di so,o	is 45&10	5
E	lay, Mar	LI Roge	Sp Aingre & fronting Pres				lis 40465	*
1	Fruit interpris	and Je ie Mig. C ans.	O				dis 20	*
N	dos	\$1.00 \$3	follows. 3 75 4.35 ne list as	3 4 4-75 5	15 6.00	7.00	9 8 8.00 9.	00
1	auge Mark	ent, san	nley's pin's nt	above.		di	a soltro	* **
1	Vire Smit	h's Pate	nt		. W do	# # # B.O.C	dia 40	*
N ss	ail and l Bee " Gi Eureka	miets Gimlet	ntletsardson's.yell'slinss'eled	ir ar	088 81	2.00 di	dis 44 s 60dt 10 dis 40	***
D	Diamon ouble Ci	t Shep	ets ardson's. yell's	* * * * * * * * * * * * * * * * * * * *		ai	dis 40 8 40&10 dis 50	MM
_	Glue P	Doug ots.	lass'		******	*******	dis 40	N N
F	amily, H	owe's "	Eureka" 's " Hand	y			dia 40	*
Bo Re	eading I	Patent iardwar	lass' leled Eureka'' 's '' Hand ixtures o Co o Ka	viitone		dis s	70830	* * *
I	l amm	era. ole's, Ne List Jan	w List of uary, '70	Dec. 10	en, 107	0	dis 25	î.
K	arner & lp's (new Hand (Noble's, list, De	08. 1, 2, 3, 10. 'vB) 1d Leg / 0.'s Hand Leg is	rens.		;	dis to	200
Pi	ovidenc	e Tool Co	o.'s Hand Leg h	Cuffs, a	115.00 €	B dox	dis so t	6
	Handle Nos Per doz.	Dool	Leg her or Thur 1 2 1.00 1. Latchestandles— gent's list	no Late	hos-	dis	60&10 p	
Re Br Ja	oggin's I. onzed li p'd Stor	or Drop e Door H	Latches andles—	Nuts. 8	w d	er doz oz 60 @ late #	soc net	-
Ba W	no Plate, rn Door rought C	hest			er do	84.00,	dis 70 %	
Fit	rface Ch ush Che fting	est, Sar	gent's lia	6		dis	75&10 % 70&10 %	
Ha	w and P immer a ad Awl.	nd Hate	net	¥ 407	OSS 83	oo, dis	40/610 % 418 20 % 25/610 %	
Ap	ple	mer Ch	larg	rted, v	AL COME	5.00		
Soc	eket Fr	aming "	8580 8880	rted, rted,	6	3.00	dia 25&10 \$	
Au	ger, assort	rted, F	netisei, asso larg asso larg asso sassorosa	*******		0.00	nekro d	
	langer	Swa	glass'		₩ set	\$1.25, \$1, dis	dis 10 % 20&10 %	
						dis	65& 10 % 118 40 %	1
Ch	max (Ar	ti-Frieti proved	ion). (Anti-Fri	ction).		din	118 50 % 70&10 %	
He	iarnew nshaw's id's	List	of 1% chi	inged t	14.00	, d	18 55 S	
Fit. Ho An	ch's (Bri tchkiss'. drews'	stol)		44	14.0	00,	dia 55 % dia 10 % dia 40 %	1
Sar	gent's erman vert					.dis 66	lis 65 %	1
Isa.	iah Bloo	Nos. 1 :		a dos	B7.25	@8.00	lin 35 %	1
L	athing.	Nos. 1 2	3	. W doz	7.50	8.00	8.50	1
SI CI	hingling,	Nos. 1 2 Nos. 1 2	3	zob ∰. zob ∰. zob ∰.	\$7.85 7.75 7.50	8,50	9.25	1
Hui	rd's ningling, law,	Nos. 1 2 Nos. 1 2	3	. ₩ doz	\$8.00	\$8 50 9.50	\$9.00 10.00	A
H. I	athing, M. Jones aingline	Nos. 1 2 & Co Nos. 1 2	3	. ₩ doz	8,00	8.50 88.50	9.00 lis 40 %	
Cl	law, athing, mon 8	Nos. 1 2 Nos. 1 2	3	.₩ dos .₩ dos	8.00	9.52 8.50	10.00 0.00 18 35 %	A
Si	ringling, aw, athing	Nos. o I Nos. I	33\$1 23\$1 23\$1 23\$1 78\$1	los \$7.5 los los	0.00 0.00 8.00	98.50	10.00 9.00	25
Ba	oad,	Nos. 12 Nos. 56	78	dos 6.00	10.00	12.00	14.00 22.00 is 10 %	C
Sh Cl La	ingling, aw thing,	Nos. 1 2 Nos. 1 2	3	. ₩ dos . ₩ dos . ₩ dos	6.50	7.00	7.00 7.50 7.00	BLOP
V BA	Laworth	£		0000000		OE Bao.	oo net	I SH
ate	N. E.	rn	le.		dos 8	10.13, d	18 70 %	T
ate	, Clark	Na. 1		00	E \$6,00	dia so	A IO S	Ř

October 1, 10	
Cotton, Patented (N. Y. Mallet & Handle Wks), did belt, (new list) # c	ook to 10 元 5 元 7 元 1 元 1 元 1 元 1 元 1 元 1 元 1 元 1 元 1
" " Plain 24 22 20 10 18 120	net E
National. Pointed and Poilshed, Pai, Fin	10 % 10 % 6236 D
Wood head Picks, Sargent's "dos 21.8c, discoctock for Iron " dos 1.8c, dis coctock for Iron " dos 1.8c, dis coctock for Iron " dos 1.8c, dis coctock for Iron " dos 1.7c	10 % 10 % net net
Iron loc Mallets Pick in Head. # dog 1.75 Pick in Handle # dog 1.75 Pick in Handle # dog 1.75 loc Axes, Small, Cast or Malleable # dog 1.00 Kitchen Ice Tongs. # dog 2.20 Kitchen Ice Tools. # dog 2.20 Kitchen Ice Tools. # dog 2.50 Kitchen Ice Tools # dog 2.50 Kitchen Ic	net Sh net of Ge
Retites. Brass, 7 to 13 inches inclusive. Brass, 17 to 13 inches. Brass, 17 to 14 inches. Brass, 17 to 15 inches. Brass, 17 to	20 % 1 800
"Bread Woran's Shoe and Bread Knives dis 31 Hay and Straw— Wadaworth's" dis 32 Fable and r'ocket. See Cuk	15 % Ba
Carriage (Jap'd 8cc. ¥ gross)	0 % Ca
Door, Mineral	ka.
Furniture, Plain 75c gross inch, dis	10% Ba 10% Ba 10% Ev 1m 14% Hy
dis 50 to de 35 to de	S To
Lanterns	et Co
De Beque. dis 10&11	S Sta
Convex Reflector	Sar Nov Ace
Sammis' No. 1, \$7.00; No. 2, \$12.00 \$1 dox, dis of Townsend's Patent \$6.00 \$1 dox. dis 345 Lines. — Lines Fish	% Mai
Sil. Lake Chair. Nos. c, 1, 2, 3, 81.00, 81.50, 87.00. dis 14810 Mason's Linen. dis 24810 Wire Clothes, Gaivanized. each 40 64 400 n	Sisse Sisse
Wire Clothes, Galvenized	g Cha
Construct	Ster Will
Barnes & Deits, Flat Key dis 30 Yale Lock Co., Flat Key dis 40 "Shepardson" or "U. S." dis 35 "Felter" or "American" dis 335	Self Signature
F. Many's "Extension Cylinder" \$10.50 w doz, no Branford	Com Bae
Norwalk dis Norwich (List August, 1879). dis 50%2 Russeit & Erwis (List August, 1879) dis 50%2 Reading Hardware Co. (List August, 1879) dis Reading Hardware Co. (List August, 1879) dis Trenton (List August, 1879) dis	Gage
Continental	Som Com
Table Lock and Co. Seasonard Side (co. Co. C	Raw Steel
Mallets.—Hickory and Lightmylliedis 35: Meat Cutters. Dixon's (P. S. & W.) Nos. 1 2 3 4 \$\psi\$ dor\\$14.00 17.00 19.00 30.00—dis 25 5	Clari Pera Waii Ham Nort The
Meat Cutters. Dixon's (P. S. & W.) Nos. 1 2 3 4 Miles' Challenge Nos. 1 2 3 3,000 dis 25 5 Miles' Challenge Nos. 1 2 3 4 4 c'rd 5 g'rd Perry's Nos. 1 2 3 4 4 c'rd 5 g'rd Each 1 2 3 4 4 c'rd 5 g'rd Wood-utf's (P. S. & W.) Nos. 10 15.00 30.00 dis 3 & 10.00 dis 3 &	Na Na
W doz. \$36.65 44.40 56.60dls 4 & 108.25 Draw Cut Nos. 5 2 6 8 10	Ente
Mmerican 400.00 - 418 a 2 3	Disst
Mincing Knives. nm., i blade, \$12: 3 blades, \$30 per gross. athrop's. dis 2<2:05 mith's. per dos \$1.75, dis 105	Boyn
Moinasea tintes. dis 55210-5 tebbins Pattern. dis 55210-5 Genuine dis 552210-5 ' Tinned Ends dis 40210-5 Chase's Hard Metal dis 405	Livin
Aller, I blade, \$12; 2 blades, \$21; 3 blades, \$30 per gross	White Red. Saw I Saw I Boyn
quare Nuts7c off list	M 205 100

dis 60 kro8 dis 60 kro8 77 dis 60 kro8 77 dis 60 kro8 78 to b dis 60	Ollers.—Zinc and Tin
o w 100 m (dis	Brass and Copper dis cs
20 # 100 B Clas 86.50 # 100 B Clas 5.20 # 100 B	Procedian Head, Sargent's List dis oxfor Second Sargent's List dis oxfor Second
n. 140 n. 140 n. 160	10 % Dixon's Lead .
# doz 5.75, dis	10 S N. Y. Belting and Facking Conew list net 10 S Picture Nalis
dis 20 di	90 % T. & S. Mfg. Co. dits 40 % 35 % Porcelain Heaq, Sargent's List. dits 50% 10 50% 10 % 10 10 10 10 10 10 10 10 10 10 10 10 10
dis 20&10 @ bern dis 20&5 @ dis 25@	26.5 Forcelain from:
dis 2062dis 2062.	Astor Plaiting Machine
Tandle Wks) dis	Bence, First Quality. dis 35 9 Extra dis. 10 % for Second dis 45 % cash in 10 days.
	Description Pailey Stanley R. & L. Co.) new list Jan. 79. dis 75&10 % The Stanley S. R. & L. Co.) " " dis 25&10 %
dis 70&: dis 40&5&: dis 60&5&:	Denance Adjustanie, new ms. uns 25210 % Piane Irons, Butcher's
dis code	0.6 5
anios dia soft	Spear & Jackson's. Scoto & Sandusky Tool Co. dis 20&10 & Pilers and Nippers. dis 204 %
listdis 35&1	Pilers and Nippers. dis 3344 % Button's Patent dis 344 % Button's Patent Hall's Patent Nippers, No. 1, \$15; No. 2, \$21 \(\pi \) doz, dis 25 \(\pi \) Humason & Beckley Mg. Co. dis 3344 % dis 345 \(\pi \) Gas Pilers dis 65 \(\pi \)
dis 4	## ## End Cutting Nippersdis 25 %
8 9 10 0 240 220 230)	Plumbs and Levels. dis 20 % Plumbs and Levels. dis 70 %
19	Disaton 2
2 250 240 230 0 19 18 18 18 2 0 0 19 18 18 18 2 10 0 11 12 11 7 8 9 10 210 200 190 180	Tohmson's Datout Adjustable dis force
8 9 10	Post Hole and Tree Augers.
y an un vel o	His I would be done of the day work done
1 20 19 180 B 0 19 48 170 B	Potato Parera Are.
1 30 19 180 B 1 30 19 180 19 W keg \$3.63 oved Light,	
oved Light, # keg 4-12 # keg 5-12 # keg 4-62	14 Pruning Hook " 11.50, dis 20 %
# dox. \$6.00 dis 45. 9 dox \$6.25 dis 20. 10 dox \$6.25 dis 20. 10 dis 45. 25 dis 20. 10 dis 25. 25 d	Total de la
OR MY, OO, CHIE 4CHLIC	Frans Screw dis foot to S Japan Screw dis 70 ct to S Japan Screw S Japan Screw S Japan S J
#1.85, distortion to 1.85, dis for tout to 1.85, dis for tout to 1.85, dis for tout to 1.85, distortion to 1.85, distortion to 1.85, distortion to 1.85, distortion to	"Anti-Friction," \$7.50 dis 20210
OE \$2.50 dis 30£10	Shade Back
# % 350 nd # % 400 nd dis 60%xo	** Panches. ** Pa
dia so	Bentis & Call Co.'s Spring and Check
# dos #x.50, dis 15 # dos #x.50, dis 15 	Barn Ooor, %, % and % inch
dis foatro dis 30210 lew list, dis 3525	Enkea. dis 15 %
nts as Door Locks	Malleabledis 15 %
gross inch, dis 10 dis 20 dis 40	
dis 40 dis 40 dis 35 dis 35 dis 54 di	5 Evans dis 40 % dos \$2.75, dis 40 % funitation Emerson. \$ dos \$2.75, dis 40 % of \$40 % of \$4
dis 50k10 5 dis 35k10k2 5 dox \$4.00, dis 20 5	Cithoman
No. 1, \$10.15 ? net	
\$13.75, dis 10\$10 5	\$\text{\psi}\$ \\ \text{\psi}\$
dis to \$10,000 to \$10,	Hivet Sets
	Reflerm. Sara Door, Sargent's list
dos \$4,00@4.50 ned dos \$8.00, dis 10 5 P dos \$4.00 net dis 55 5 dis 25% 5 dis 25% 5	Manufacturers' Net List July 2, 1879, Manufacturers' Net List July 2,
dis 25&10 % dis 15 % dis 15&10 % dis 25&10 % dis 25&10 %	Tar'd Rope 9 12 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	Steat
March 1, 1879. dis 25/82 \$	Have the Boxwood Porty. Chapita's. Boxwood Porty. Chapita's. dis 20 dis 60
dis 35 %	Stephens 64210 % 504:0 %
dis 50&10 %dis 40& 10 %dis 3315&10 %dis 30 %	From 4 to 10 lbs. F B 2%c net Self Heating by dox 25. to net Tailors S dox 25. to net
dis 40 %dis 35 %dis 33\5 %dis 33\5 %dis 33\5 %dis 33\5 %dis 33\5 %dis 33\5 %	S From a to 10 lbs. F
dia	Sand Paper. Bacder & Adamson's Flint, co to 136. 34.25 P ream " 2, 2/6 & 3, 4.75 P ream dis
1879). dis toka s	Mrs. Fort's Fat. Cold Handle, Crown dis 25 S Combined Fluter and Sad Iron. per doz \$15.00, dis 15 S Sand Fapers. Baeder & Adamson's Flint, oo to 1\(\frac{1}{2}\), \(\frac{3}{2}\), \(\frac{2}{3}\), \(\frac{7}{2}\), \(\
dis	Saw Same S
dis 1325 5 and 2 5 tor cash dard"dis 40 £	Patent
### Ap ################################	Raw Hide dis 25 % Steel Ribbon dis 10 % Sush Locks dis 10 %
edas ao n	Clark's, No. 1, \$10.00; No. 2, \$5.00 ppr gross. dis 50% Ferzuson's dis 33% 5 Walker's dis 10 % Gross dis 20% 5 % Gross d
3 40.00—dis 30 % rd 5 g'rd	Steel Ribbon. dis to 8 Sash 1,ocks. Clark's, No. 1, \$1.00; No. 2, \$8.00 per gross. dis 505 Perguson's. dis 33\5 5 Walker's. dis 10 5 Hammond's Window Springs. dis 10 5 Hammond's Window Springs. \$0.00 per gross, dis 10 5 The Perfect, Clark & Smith, Plain Japh 4 gro \$10.00 net "Por Knob Jap'd, gro \$1,00 net "Nack-Plated, \$1.00 \$2.00 net Sash Weights.—Solid Eves. \$1.00 \$13.00 \$20.00 net Sash Weights.—Solid Eves. \$1.00 \$13.00 \$20.00 net Sash Weights.—Solid Fives.
rd 5g'rd 00 36.00 dis 3 &10 150 18,00—dis 3:&10 J	
10 dis 4: \$10&2 \$	Niles
B 5 50.00 60.00	
des, \$30 per	Oliston's Circular dis 35 8 Mill dis 35 8 Mill dis 35 8 dis 25
dis 25&10 % 02 \$1.75, dis 10 %	Wheeler & Clemson Mrg. Co.'s Hand
dis 55% to 5 dis 55% tic \$ dis 40% to 5	Framed Wood— Nos 101 103 104 105 Per dox \$10.00 87 10.00 250 5 250 6
dis 40&10 xdis 30 %dis 20 fdis 55&10 %dis 45&10 %dis 45&10 %	White, Vermont
e Trade Report	Saw Rods
75 off list	#####################################
dis 5 %	Cacci
₩ B to c	# Plate and Cross Cut

Tring and the state of the stat

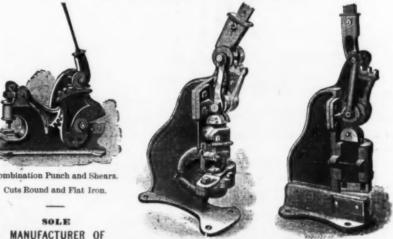
Lower Rich Ve Protest Ve Protest

October 2, 1879.		THE IRON AG	E.	31
Hart's Patent Lever. dis 20 % Disston's. dis 20 % Scales. dis 20 % Scales. Hatch, Counter, No. 171. \$\partial \text{dos \$\frac{2}{3}\$}\$, \$\text{dis 40 \$\frac{2}{3}\$}\$\$ Tes, No. 161. \$\partial \text{dos \$\frac{2}{3}\$}\$, \$\text{dos \$\frac{2}{3}\$}\$, \$\text{dis 40 \$\frac{2}{3}\$}\$\$ Union Platform. \$\text{dos \$\frac{2}{3}\$}\$, \$\text{dos \$\frac{2}{3}\$}\$, \$\text{dis 20 \$\frac{2}{3}\$}\$\$ Howes. dis 20 % Howes. dis 20 % Chatillon's Greers. dis 20 % Chatillon's Greers. dis 20 % Family Universal. dis 45 % \$\text{Favorite}\$ dis 40 % Scale Beams, Chatillon's list. dis 20 % Scale Beams, Chatillon's list. dis 20 % \$\text{Scale Beams, Chatillon's list.} dis 20 % \$\text{Mis 20 \$\frac{2}{3}\$}\$ "" "" "" "" "" "" "" "" "" "" "" "" "	Coddered Nos. o @ 18.dis 4* 6* 475 8 Galvanized, Nos. o to 6 ** ** ** ** ** to cd is 375 6* 5* 8 Mos. 7 to 18 market list, dis 375 6* 40 8 Timed, Nos. o to 18 dis 425 6* 40 8 Cast Steel dis 25 6* 30 5	No.0 to 20. High Brass. Low Brass. Coppe \$0.28 \$0.23 \$0.20 \$	r. "Ultramarine	Sundries Asph atum Ge Benzine Ft sl. (60 Chaik Ft sl. (60
Defiance Box and Ship dis 15% to 5 Foot dis 10 to 5 Poot dis 15% t	Fence Staples No. 12 W h 10 G ONE Staples Galvanised 9 W h 2 G ONE Staples Galvanised 9 W h 2 G ONE Stubs Steel Wire. 9,700 to & gold Japanned Barb Fence W h 13/6 Japanned Barb Fence W h 13/6 Stubs Steel Music Wire, Nos. 12 to 27. W h 8 St.00. net Turner & Seymour Mfg. Co., Picture Wire, dis 80&20&70 G Judd's Picture Wire. dis 80&20&70 G Judd's Picture Wire. Galvanized W coil 30 de 200 net Green Wire Cloth, per sq. foot, 30 @ 3/4c net Wrenchea. American Adjustable net Diagonal dis 20 g Collins & Co. 3 dis 20 g Collins & Co. 3 dis 20 g "Mechanics" dis 20 g "Mechanics" dis 20 g Grirard Standard. dis 20 g Grirard Standard.	Flat, Square and Half-Round Wire to * not advance of Round Wire. Fancy Wire not less than 1cc * not less than 2 feelengths, 30c. Wire straightened and cut, smaller than No. 8, an not less than 2 feel lengths, 30c. Wire and Rods less than 2 feet lengths, special rate Twelve cents per next for special not not less than 2 feet lengths, 30c. Wire and Rods less than 2 feet lengths, special rate Twelve cents per next for special not not not less than 2 feet lengths, special rate Twelve cents per next for special not not less than 2 feet lengths, special rate Twelve cents per next for special not	t ' Venetian (N. C.) dry st. 6; 6; 8; 7.0 t '' in oil. asst'd cans it; kegs, 8c d Rose Pink 10; 6; 13c Sienna, American, Raw 4c Burnt 10; 6; 13c Sienna, American, Raw 4c C Raw in oil 10; 16; 6; 5c Umber, Bnrnt 11; 6; 15; 6; 6; C '' in oil 9; 12; 6; 6; C Vermillon, Chinese 9cc	Punic tone selected Lumps
Lag or Common Coach	Davis' Patent Duplex. new list, dis 2	Plain to No. 20 inclusive above 54 in. to 3 in	Trieste. 1.10c	18 x 22 to 20 x 30. 16.28 10.50 9 7c 18.75
dis 20 Heinisch Trimmers and Scissors	Unique, No	to No. 20. Tubing Sawed or Cut s to 4 feet long, 2 cents advance on List. Add to 2 cents % cent for each additional cutting under s feet. All Mandrel Drawn Tubes under % in., 25 cents per pound advance. Plain. ZINC TUBING.—net. Prancy. Scotch and Extra Patterns. 4 Per cent. 4 Per cent. CERMAN SILVER TUBING.—dis 10 %	Sperm Fgal. 020	10.00 17.75 10.00
Philadelphia Hanging dis 40&c&2 %	Eureka, No. 10, with Cog Wheels. 57.00 Novelty, No. 10, with Cog Wheels. 50.00 Excelsior, No. 10, with Folding Bench. 59.00 Excelsior, No. 10, Wood Frame, no Gear. 50.00 Keystone No. 1, Wood Frame, no Gear. 54.00 No. 10, Wood Frame, no Gear. 54.00 No. 10, Wood Frame, no Gear. 54.00 Stamped Tinware.—New List Dec. 1, 1878. Common Stamped Ware. 1, 1878. Common Stamped Ware. 1, 1878. IRON.—DUTY: Bars, 1 to 1960. F B; Sheet, Band Hoop and Scroll, 1940 1960. F B; Sheet, Band Hoop and Scroll, 1940 1960. F B; Sheet, Band Hoop and Scroll, 1940 1960. F B; Sheet, Band Hoop and Scroll, 1940 1960. F B; Sheet, Band	STREEL.—DUTY: Bars, Ingots, Sheets and Colivalued at 7 cents # B., or under, 24% cents; over, cents, and not above 11, 3 cents # B.; over 11, 3% cent # B. and 10 % ad 941. Railway Bars, 14 cents # B. Railway Bars, in part Steel, 1 cent # B. Provided that Motal cemented, cast or made from iron by the Bessenser or pneumatic process, of whatever form o description, shall be claised as Tool. American Cast Steel. 5pring. 17 5pring. 18 19 19 19 10 10 10 10 10 10 10	No. 103 Chambers	,
Minten. Square Frames, Round Cornered, by case dis 5c Less than a case dis 5c Specke Minuves Defiance Metallic new list, dis 2c S From dis Wood dis 90 S G G	Wrought Serap, \$\psi\$ \$\psi\$ ton: Cast Serap, \$\psi\$ per ton: Railroad 70. * \$\psi\$ con: Silver, \$\psi\$ per ton: Railroad 70. * \$\psi\$ con: Silver, \$\psi\$ per ton: Railroad 70. * \$\psi\$ con: Silver, \$\psi\$ per ton: Roilroad 70. * \$\psi\$ con: Silver, \$\psi\$ con: Si	File	Gombination Punch and Shears.	
Britannia	Common from :	ANTIMONY 1.EAD.—DUTY Pig & \$\psi\$ 100 Bs : 04d Lead. 15g6 B \$\psi\$ Pipe and Sheet. 28gc \$\psi\$ B. American	MANUFACTURER OF Lyon's Patent H DRILLS, SHEARS AND For Workers in Iron and St	PUNCHING PRESSES.
Washita Stone. No 1. W 5 f50 net Slips. No 2. W 5 ten net Slips. No 3. W 5 ten net Washita Stone (Boyd & Chase). No 1. W 5 ten net Turkey Oil Stone (Boyd & Chase). 40 Sin, \$1.00 % 5, Slips dis 10 \$ Lake Superior (Boyd & Chase). \$2.50 % 5, dis 10 \$ Lake Superior (Boyd & Chase). \$2.50 % 5, dis 10 \$ Slips \$2.50 % 5, dis 10 \$ Grindstones Family, Loring's. \$2.50 % 6 dis 10 \$ Stove Polish.	Dalvanized, 14 to 20, M. S. # \$ 9 c; 2d qual. # \$ 8 c	Straits	ZINC STOV	E BOARDS.
Squares. dis % S; full cases, dis 50&10 S 2 S Iron. dis % S; full cases, dis 50&10 S 2 S Iron. dis % S; full cases, dis 50&10 S 2 S Iron. dis % S; full cases, dis 50&10 S 2 S Iron. dis 40 S Iron. dis 40 S Iron. dis 50 S Iron. dis 5	o exceed 34 or. to the sq. rt.	Prime Char.	"IRON CLAD" AND	and Oblong.
Enterprise Mfc. Co	4 and 16 oz. and heavier. # 3 30 By the case. # 3 32e (And all sizes not over 20 in. wide.) 20 # 30x00. 4 and 16 oz. and heavier. # 3 30x 20 # 30x00. Brass. # 3 30c 20 # 3 30c Brown & Sharp's Gauge the Standard for Metal; Old English Gauge the Standard for Wire. BLASS MANUFACTURES' FRICE LEVE.—dis nominal. Cash prices for Roll and Sheet Brass. For less quan ty than 100 Bs. add 9c # 3. HIGH BRASS. All Nos. not thinner than to No. 28, wider than 2 in., not wider than 1 in	Paper Stock, Old Metals, &C Canvas linen. 4 6 6 6 6 6 6 6 6 6	The "DOUBLE RIM" is low priced and he Please send for illust Address the manufacturers, SIDNEY SHEP	PARD & CO.,
Traps. Game. Newhouse Active Months of the	Il Nos. to No. 28, inclusive, and widths over 20 to join, inclusive. 10 pin, inclusive. 10 pin, inclusive. 11 Brass thinner than No. 38 is Platers' Brass, at48c heets 24x8, and all sheets cut to particular sizes and lengths under 30 in., in width wider than 2 in., 320 rinters' Rules. 10 pin 10 p	Rope cuttings	EDGAR'S PATENT STOVE SHOWN The BEST and CHEAPEST in the world.	falo, N. Y., or Chicago, III.
Triers.	clicing secta, so we will be section of the section	Straw Board Cuttings	THE GEM, VICTOR, U. S., Send for Car NEW YORK STAMPIN 311 and 313 Avenue A Dhiladalnhia	O. K., and EXCELSIOR. AG CO., Sole Manufacturers, New York, U. S. A.
Lowell Hand Vises dos \$17.50 dis 10 %	per cent., 12 inch, to No. 26 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52 \$6.76 \$6.52	Paints, Oils, &c. Paints, Oils, &c. Paints.	NORWAY IRON Carriage & Tire Bolts. TOWNSEND, WILSON & HUBBARD, 2	

Blue Ci	Illness dry Sgittramarine 18 69 505 Spanish 14 Van Dyke Combination price Carome 15 09 306 Paris 10 4 (6 18 69 30
Brown	Spanish The
Drown,	Spanish
Cl	van Dyke
Carmin	e, 40combination price
Green,	Chrome 15 @ 230
14	" in oil
66	Paris good acc: best, acc
6.6	if in oil
fron Da	Int Dulche Ded
HOH Pa	int, bright Red by 234c
11	
**	Brown # 15 1/60
	Purple. # 5 3 Ground in Oil, Bright Red. # 5 5 " Red. # 2 5 5 " Brown # 5 4 5
44	Ground in Oil, Bright Red 3 35 5560
	" Red 30 10 50
6.6	" Brown W B 4160
6.6	Purple 39 m 60
Mineral	Paints. Purple. P 4 6 40
Oranga	Minoral
Pod To	Mineral
Wen Tel	Partick
16 Tree	English9%9 gold
" Ve	netian (N. C.) dry
**	English
1111	Han dry
Rose Pi	nk
Sienna.	nk 10 @ 130 American, Raw 40
44	Rurnt 4160
6.6	Burnt
6.6	Raw11 @ 15 @ 250
	Naw
Umber,	Bnrnt
**	" In oil 9 @ 12 @ 100
11	Raw316 @ 7160
	" in oil
Vermill	lon, Chinesegod
5.6	English55 @ 57%0
66	Trieste 1.100
6.6	Trieste
White I	end American pure dry 6 to 70
44 88866 8	ii in oil stored
White	Dowle Frolish prime in hhle a @ alco
W HILE,	Cabe, English, prime in both 2 @ 27gc
renow	American, common
44	in oil asst'd cans, lie; kegs, se
	vermont
Yellow	Chromo 17 @ 270
0.6	" in oil
Zine W	in oil
66	" No. 1, in oil
66	French (Paris) 8 @ 100
64	" in oil @ 100
	AND CONTRACTOR OF ACCUSE
	Oils.
Linseed	, Raw, in casks and bbls \$\varphi\$ gal. 64c & 64c Boiled. " " 08c & 69c d Whale \$\varphi\$ gal. 47c
4.6	Bolled. " " " o8c & 690
Bleache	d Whale W gal. 420
4.6	Sperm # gal. 920
46	Elephant
Signal	426
Prime I	ard
No.	
No.t	rginia12e @ 18e
VV OST VI	rginia120 @ 180
Daming	380
Empire	Cylinder
Miners'	Oil
Fish Oil	pressed330
	60e
	ry 400
Neatsfo Tallow. Machine	97y
Tallow. Machine	Pry400

Asph atum Bensine Chaik Block Block Block Block Block Block Bryer, Patent, Am'n Frostings Glue, White Glasieres Foints, Zine Gark Mineral Wool Pumic Stone, selected Lump Putty, in bladders. In bulk Rotten Stone, soft, English. Boltten Stone, soft, English. Spirits Turpentine. Whiting Spanish. Glas				
Chaik	*******			00
" Block. Dryer, Patent, Am'n			# 4	81, 100
Dryer, Patent, Am'n Frostings	*******			240
Frostings			*****	7960
Frostings	J. 9976	cans,	tolec:	keg,ç
	******			500
Blue, White	******		3	3 @ 44
Sheet	******	******		2G
Haziers' Points, Zinc	******		** 4 50	8
Jum, Copal		*******	******	****304
Damar	*******			25
Snellac, English			*** ***	27
dark.		*******		. 15
Litharge. English	*******		******	e g to
mineral wool			12 17d	(0) 25%
rumic Stone, selected Lumi	38			A GB CC
powdered				2960
rutty, in buidders		*******	****	*** 576
Potton Stone coft Franks			******	** **!
totten Stone, sort, English.	******	******		Krizz*
Chitter Coonish	*******			* * * 366
wmiting abantan	*******	******	× **	*** 947
Glas				
Critica				
FRENCH WIND	OW GL	ASS.		
Prices current pe			4	
Trices current pe	r oour o	1 30 100	6.	
Single ThickD	iscoun	6 doltao	£	
SIZES.	ıst.	ad.	3d.	4th
				a
■ 8 to 10 × 15	\$ 8.00	\$ 6.75	\$ 6,25	\$ 5.7
18 X 14 to 16 X 24	8.75	8,20	7.00	8.7
8 X 22 to 20 X 30	11.25	10.50	9.75	8.7
		11.50		
6 x 28 to 24 x 36 6 x 36 to 26 x 44 6 x 46 to 30 x 50 0 x 52 to 30 x 54	13.40	12.25		
6 x 36 to 26 x 44	14-75	13.75	11.75	1
6 X 46 to 30 X 50	16,25	15.00	13.00	1
O X 52 to 30 X 54	17.25	16,00		
O X 50 EO 34 X 50	18.75	10.75		
4 X 58 to 34 X 60	19.50	18,00		
	21.00	19.50	18.00	
N A UC 10 40 X 00	Iscoun	t soft to	4	
Double Thick -D				
Double Thick.—D				
	ıst.	ad.	3d.	, tb.
Double Thick.—D	1st.		-	more se
Double Thick.—D	1st.	\$11.00	\$10,00	8 9'2
Double Thick.—D SIZES. 6 x 8 to 10 x 15	\$12.00 14.75	\$11.00 13.75	\$10.00 12.75	more se
Double Thick,—D SIZES. 6 x 8 to 10 x 15 1 x 14 to 16 x 24 8 x 22 to 20 x 30 5 x 56 to 24 x 50	18t. \$12.00 14.75 19.00 21.50	\$11.00 13.74 17.75	\$10,00 12,75 16,00	8 9'2
Double Thick.—D 81ZES. 6 x 8 to 10 x 15. 11 x 14 to 16 x 25. 8 x 32 to 20 x 30. 5 x 36 to 44 x 36. 6 x 8 to 4 x 46.	18t. \$12.00 14.75 19.00 21.40	\$11.00 13.75 17.75 10.25	\$10,00 12.75 16,00 16.50	8 9'2
Double Thick.—D 81ZES. 6 x 8 to 10 x 15. 11 x 14 to 16 x 25. 8 x 32 to 20 x 30. 5 x 36 to 44 x 36. 6 x 8 to 4 x 46.	18t. \$12.00 14.75 19.00 21.40	\$11.00 13.75 17.75 19.25 20.75	\$10,00 12,75 16,00 16,50 18,25	8 9'2
Double Thick.—D 81ZES. 6 x 8 to 10 x 15. 11 x 14 to 16 x 25. 8 x 32 to 20 x 30. 5 x 36 to 44 x 36. 6 x 8 to 4 x 46.	\$12.00 14.75 19.00 21.50 23.00 25.00	\$11.00 13.75 17.75 19.25 20.75 23.00	\$10.00 12.75 16.00 16.50 18.25	8 9'2
Double Thick.—D 81ZES. 6 x 8 to 10 x 15. 11 x 14 to 16 x 25. 8 x 22 to 20 x 30. 5 x 36 to 24 x 30. 6 x 36 to 26 x 44. 6 x 46 to 30 x 49.	15t. \$12.00 14.75 19.00 21.50 23.00 25.00 27.00	\$11.00 13.75 17.75 19.25 20.75 23.00	\$10.00 12.75 16.00 16.50 18.25	8 9'2
Double Thick.—D 81ZES. 6 x 8 to 10 x 15. 11 x 14 to 16 x 25. 13 x 14 to 16 x 25. 5 x 36 to 24 x 36. 6 x 36 to 26 x 44. 6 x 46 to 30 x 49. 0 x x 26 to 30 x 49. 0 x x 26 to 34 x 36.	#12.00 #4.75 #9.00 #1.50 #3.00 #25.00 #7.00 28.50	\$11.00 13.75 17.75 19.25 20.75 23.00 25.00 20.00	\$10.00 12.75 16.00 16.50 18.25 21.25 22.25	8 9'2
Double Thick.—D SIZES. 6 x 8 to 10 x 15. 1 x 14 to 16 x 22. 5 x 36 to 24 x 30. 5 x 36 to 24 x 30. 6 x 36 to 25 x 36.	## 12.00 ## 75 #9.00 ## 75 #9.00 #3.00 #8.00 #8.00 #8.50 30.00	\$11.00 13.74 17.75 19.25 20.75 23.00 25.00 20.00 27.75	\$10.00 12.75 16.00 16.50 18.25 19.25 21.25 22.25 24.75	# 9'2' 11.7'
Double Thick.—D 812ES. 6 x 8 to 10 x 15	#12.00 #4.75 #9.00 #1.50 #3.00 #25.00 #7.00 28.50	\$11.00 13.74 17.75 19.25 20.75 23.00 25.00 20.00 27.75	\$10.00 12.75 16.00 16.50 18.25 21.25 22.25	# 9'2' 11.7'

B. WA No. 103 Chambers St., New York.



ZINC STOVE BOARDS.



SIDNEY SHEPARD & CO.,

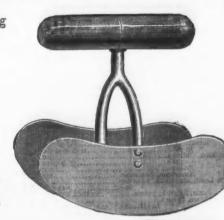


THE COWLES HARDWARE COMPANY, Unionville, Conn., U. S. A., Manufacturers of HOUSEHOLD HARDWARE.

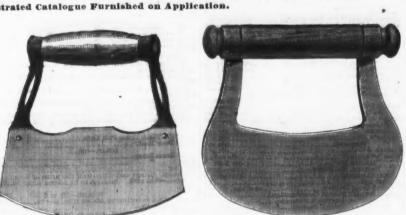
Geer's Single and Double Acting SPRING BUTTS.



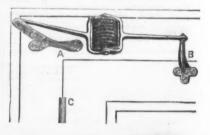
Exert their greatest force when Door is closed.



lliustrated Catalogue Furnished on Application.



Hercules Reverse Action Door Spring and Retainer.



SCISSORS. AND SHEARS SEYMOUR'S



HENRY SEYMOUR CUTLERY CO.,

MANUFACTURERS OF

Full Nickel Plated and Maroon Japan Handle

Shears & Scissors

EVERY PAIR WARRANTED.

Sold by Hardware dealers throughout the country. Salesrooms,

84 and 86 Chambers Street, New York City. Manufactory, HOLYOKE, MASS.



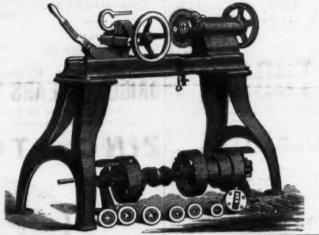
WILEY & RUSSELL MFG. CO., Greenfield, Mass.

Lightning Screw Cutting Machinery and Tools.

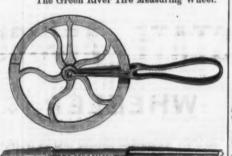
Bolt Cutters for hand or power.
Screw Plates cutting from wire sizes to 1½ inch.
Bit Brace Taps and Dies.



Special Screw Plates for the use of Model Makers, Carriage Makers and Blacksmiths. Bit Brace Reamers for use in wood and



Green River Drills.
Green River Tire Benders.
Green River Tire Upsetters.
The Green River Tire Measuring Wheel.



Horse Shoers' Vises, &c., &c. Send for Illustrated Price List.

SCYTHE COMPANY, West Winsted, Conn. BEARDSLEY

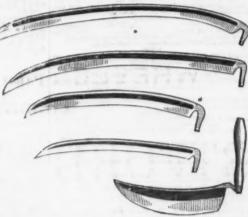
Manufacturers of the well-known brands of

German Steel, Cast Steel and Silver Steel Grass Scythes.

Clipper, Emperor, Beardsley's Golden Trimmer, Conqueror, Dutchman, Waldron, &c.

Silver Steel, Clipper & Harvest Victor Grain Scythes, Common Pattern & Spear Point Hay Knives.

Corn Knives, Bush & Weed Scythes.



THE "ECLIPSE"

Hand Fan Blowers.

Every machine guaranteed or no sale Is now improved by lever attachment. Works precisely like bellows lever, or, if preferred, crank can be used. The trade are invited to write for terms descriptive circulars, &c.

EXHAUST FANS

for ventilating mines. Address,

PATENTED Speaking Tube Whistles, EZRA F. LANDIS. Bell Hangers' Hardware.

nade expressly for the export lat the Centennial Exposition. established reputation for effi-Circular mailed on application

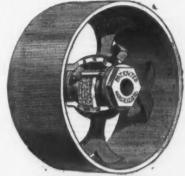
JOHNSON, GERE & TRUMAN, Owego, N. Y.

W. R. OSTRANDER,

Send for revised catalogue.

New York.

Sole Manufacturer, LANCASTER, PA.



SELF-LUBRICATING

Loose Pulleys W. OESTERLINE,

99 Allison St., CINCINNATI, OHIO. Send for Circulars and Price List,



10,000 Sold the First Year. THE BEST ADJUSTABLE BAG HOLDER
In the World.
PRICE ONLY \$1.50.



L. JEFF. SPRENGLE Sole Manufacture,

Ashland, Ohio. Who would do with-out it for \$1.30. The platform does not go with the holder; it is extra if wanted,

Bergen Port Spelter

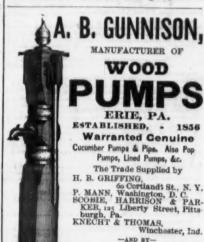
MINES: WORKS & FURNACES Bergen Port, N. J.
The only Miners and Manufacturers of MINES: Lehigh Valley, Pa. PURE

LEHICH SPELTER

From Lehigh Ore. Cartridge Metal and German Silver.

Also manufacturers of BERGEN PORT OXIDE ZINC. Superior for Liquid Paint on account of its body and wearing properties.

F. OSCOOD & CO., Proprietors. E. A. FISHER, Agent, 13 Burling Slip, N. Y.







FLANDER'S PATENT IMPROVED
CRANK PIN MACHINE,
For turning off Crank Pins in position and while the
wheels are under the engine. No railroad company
should be without it. Manufactured and for sale in

L. B. FLANDERS MACHINE WORKS, 1025 Hamilton St., Philadelphia.
Descriptive circular on application.





311 Cherry St., PHILADELPHIA.

To Pattern Makers and Foundrymen.
PATTERN LETTERS (Metallic) to put on patterns. Over roo sizes and styles at reduced prices:
Manufact'd by H. W. KNIGHT, Seneca Falls, N. Yo

SPECIALTIES IN CARRIAGE HARDWARE FORGINGS

WILCOX & HOWE,

BIRMINGHAM, CONN.



Made under letters patent of Oct. 22, 1873 and Dec. 21, 1874. Four sizes: 36, 7-16, 24 and 9-16 in. Two dozen in a box.

STRAIGHT STAY-END TIE.



BENT STAY-END TIE.

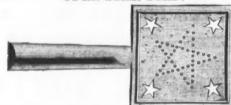


No. 4, NEW STAY-END.

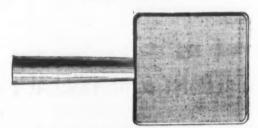


Made from best Norway Iron, under letters patent of Sept. 1, 1874. Desirable for plain work. Four sizes. Two dozen in a box.

OPEN STAR STEP.



PLAIN STEP.



Made from best Refined Iron. The cheapest and best Plain Step ade. Three sizes: 3x3½, 3½x4, and 4x4½ in.

SHORT JOINT EYES.



Round or Oval, ¾ to 9-16 in. hole for prop. Four dozen in a box

LONG JOINT EYES.



No. 1, STAY-END.



Made from one piece of best Norway Iron, under letters patent of Oct. 22, 1873, and Dec. 21, 1875. Two sizes: ¾ and 7-16, and ¼ in. Two dozen in a box.



No. 7, NEW OVAL OFFSET.



Made from best Norway Iron, under letters patent of Sept. 1, 1874. Five sizes, 9-16x34, 3/x34, 3/x7-16, 3/x 3/4 and 1x3/2 in. Two dozen in a box.

Send for our Illustrated Catalogue of 1878; the most complete Catalogue of Forged Carriage Irons yet published. All goods of our manufacture are fully warranted.

NEW YORK STATE AGRICULTURAL WORKS, Established 1830.

WHEELER & MELICK COMPANY,

Patentees and Manufacturers of

Railway & Lever Horse Powers, Wheeler's Vibratory Threshers & Cleaners, Horse Power and Thresher and Cleaner.

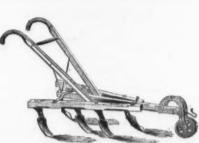


Eagle Rake.

Ellis's One and Two-Horse Threshers and Cleaners, Threshers and Shakers, Straw-Preserving Rye Threshers, Eagle Hand and Horse Dumping Rake; La Dorr's Jointed Pulverizing Disc Harrow, the only Disc Harrow that will thoroughly pulverize the ground, leave it smooth and cover the seed; Tolley's Champion One and Two-Horse Cultivator with patent screw teeth Steam Engines, Dog and Pony Powers, Wood Sawing Machines, Shingle Machines; La Dorr's Disc Corn Cultivator, unequalled by anything for cultivating corn or any rowed crop. All machines made of first-class material, and are the best machines for export and home trade. · Having been established nearly fifty years, our reputation is second to none Send for illustrated circular and report of Centennial Trial.

WHEELER & MELICK COMPANY,

Albany, N. Y., U. S. A.



Tolley's Champion Cultivator.

Hexagon Head Cap Screws, Round Head Set and Cap Screws, Square Head Set and Cap Screws, Sewing Machine Bobbins Gem

Screws, Agraffes, Studs and other Articles turned from Steel, Iron, or Brass by Automatic Machinery. HARTFORD, CONN.



Steel.

WOLFF & CO.,

MANUFACTURERS, IMPORTERS, EXPORTERS & GENERAL MERCHANTS MANUFACTURERS OF

CAST STEEL WIRE for all Purposes, Special Wire. Market Steel Wire, Prime Coppered Spring Wire, and of all Kinds of Furniture Springs, &c.

Importers of IRON & STEEL, WIRE RODS, &c Sole Agents for COCKER BROS., Limited, Sheffield, England. MANUFACTURERS OF

Cast Steel, Wire, and "Meteor" Wire Plates. Sole Agents for "PR. HOMO" Dec. Cast Steel, Gun Barrels, Moulds and Ordnance.

EXPORTERS AND GENERAL MERCHANTS.

Direct all communications to

Works, Peekskill, N. Y.

Successor to JOSHUA MOSS and GAMBLE BROS.

Hammers, Anvils, Vises, Blacksmiths' Tools. WARRANTED CAST STEEL. Specially adapted for Dies, Punches, Turning Tools, Drills, &c.

MPROVED MILD CENTERED CAST STEEL specially adapted for Taps, Reamers, Milling Tools, &c. Warranted not to cruck in hardening Tools of any size. SHEET, GERMAN, MACHINERY, SPRING AND EVERY OTHER DESCRIPTION OF STEEL Phila.-J. S. Watson & Son, Agents, 512 Commerc Franklin Works, Wadsley Works, Walkley Works, Sheffield, England.

Pittsburgh, Pa.,

CRESCENT

In Bars, Sheets, Cold-Rolled Strips, &c.

Polished, Compressed Drill Rods and Wire, Warranted equal to any imported in quality, Anish and accuracy.

Also Common Grades.

Established 1810.

SHEFFIELD, ENGLAND.

Manufacturers of the "Celebrated "DOG BRAND" FILES.

STEEL

For Drills, Cold Chisels, Tools, Taps, Dies, &c. COLD ROLLED STEEL for Clock Springs, Corsets, &c.

SHEET CAST STEEL for Springs, Saws, Welding and Stamping Cold, &c.

GERMAN, MACHINERY, ENGLISH AND SWEDES SPRING STEEL, And all other descriptions for machinists ar

Warehouse, 30 Gold Street, New York. HENRY MOORE, Agent.

Cleveland Rolling Mill Co.,

BESSEMER STEEL

Iron Rail and Fastenings.

SPRING STEEL

WIRE OF ALL KINDS, Steel Horse Shoes, Tire, Axles and other Forgings,

Boiler Plate, Galvanized and Black Sheet Iron, Corrugated Roofing and Siding of Siemens-Martin, Bessemer Steel and Iron. CLEVELAND, OHIO. &ll made from our own Lake Superior Ores. AGENTS FOR THE UNION STEEL SCREW CO.

A. H. STONE, Vice-Pres., No. 52 William St., New York. H. CHISHOLM, President Cleveland, Ohio.

GEO. SANDERSON & CO., MANUFACTURERS AND

Importers of STEEL.

Removed to 30 Gold Street, New York.

Particular attention is paid to quality and temper for Files, Saws, Edge Tools, TABLE and POCKET CUTLERY, Tools, Taps and Dies; also for Cold Rolled Steel for CLOCK SPRINGS, CORSET CLASPS, &c.

A Large Assorted Stock of JOHN ROTHERY'S FILES always on hand.

Steel.

NEWARK WORKS R. STEEL

INED CAS

And grades of Steel specially adapted for Lathe Tools, Chisels and Taps and Dies Warranted most superior for TOOLS AND GRANITE ROCK DRILLS

A full assortment of this universally approved OLD BRAND and other Steels for sale by EDWARD FRITH & SON, Agents,

No. 241 Pearl St., New York.

LABELLE STEEL WORKS.

CO.,

Also Springs, Axles, Rake Teeth, &c. Office and Warehouse, 46 Ciiff St., New York. OFFICE & WORKS, Ridge, Lighthill & Belmont Sts., & Ohio River, Allegheny. Post Office Address, Pittsburgh, Pa.

Represented at Boston by Wetherell Bros., 21 Oliver St.; at Milwaukee by John Pritelaff, 43 to 49 Westwater St.; at Chicago by S. D. Kinbark, 80 to 84 Michigan Ave.

ALBANY & RENSSELAER IRON & STEEL CO., Troy, N. Y.,

Office In New York City, 56 BROADWAY.

Bessemer Railway Steel, MERCHANT BARS, TIRE AND SHAFTING,

Railroad Iron, Pig Iron, Merchant and Ship Iron.

· AGENCIES IN BOSTON AND PHILADELPHIA.

D. G. GAUTIER, Chairman

CHAS. DOUGLASS, Gen'l Supt.

GAUTIER STEEL CO., LIMITED

SPRINGS



WORKS, JOHNSTOWN, PENN.

Eastern Warehouse, 93 John St., N. Y.; Phila. Warehouse, 505 Commerce St.

97 John Street, NEW YORK,

Sole Manufact'rs of "CHOICE" Extra Cast Steel.

Manufacturers of all Descriptions of Steel.

Manufacturers of Every Kind of Steel Wire.

Don Works, Sheffield, England. CHAS. HUGILL, Agent.

& C. WARDLOW,

Sheffield, England,

Manufacturers of the Celebrated

Cast and Double Shear STEEL.

In Bars, Sheets and Coils, for fine Pen and Pocket Cutlery, Table Knives, Mining Tools, Dies, Files, Clock and other Springs, and Tools of every variety. Warehouse, 95 John Street, New York,

FOREST CITY STEEL CO.,

Crucible Steel for Drills, Taps, Dies, Tools, Mill Picks, &c.

Testimonial of D. J. Jones, Roll Turner, Cleveland Rolling Mill Co.

"I have been tecting the steel on chilled iron rolls along with the best English and American steels, and flud it superior to any of them in every respect."

Samples furnished for trial. Quality guaranteed equal to any.

No. 13 Detroit Street, Cleveland, Ohio.

WILLIAM BROWN, Representative.

Steel.

MUSHET'S Special Steel

LATHES, PLANERS, &c.

at least double work by increased speed of cuts harder metals than any other Sole Makers,

SAMUEL OSBORN & CO., Sheffield, England.

Represented in the United States b

RANDALL & JONES. BOSTON.



Used for refining and temper ing all kinds of Steel Tools. Increases their durability at least fivefold. Secures absolute safety from

racking.

BAUER & CO., 96 Greenwich Ave., N. Y.

Bmery, Grindstones, &c.

Walter R. Wood, GRINDSTONES.

Berea, O., Nova Scotia, & other brands 283 and 285 Front Street, New York.

WORTHINGTON & SONS

North Amherst, Ohio. Manufacturers of

Lake Huron Amherst and Berea

107th Street and Harlem River, ad for Illustrated Price List. NEW YORK

H. S. WOOD & CO.,

Manufacturers of

Importers of Berca, O., Biack Biver, O., Wickersley, Eng., Lake Huron, Mich., Nova Scotia,

CRINDSTONES. 33 West and 58 Washington Sts., N. Y.

S. H. JENNINGS, Drep Hiver, Conn., Importer of and Sole Agent in the United States for JENNINGS'S ROYAL MILLS LONDON EMERY, Prices Low. Please write for information and prices.

Gunpowder.

DUPONT'S

Rifle, Sporting and Blasting Powder

The most popular Powder in use. Dupont's Gunpowder Mills, established in 1801, have maintained their great reputation for 78 years. Manufacture the following cele-brated brands of Powder:

DUPONT'S DIAMOND GRAIN, Nos. 1 (coarse) to 4 (fine), unequaled in strength, quick-ness and cleanliness; adapted for Glass Ball and Pigeon Shooting. DUPONT'S EAGLE DUCKING,

Nos. 1 (coarse) to 3 (fine), burning slowly, strong and clean; great penetration; adapted for Glass Ball, Pigeon, Duck and other shooting. DUPONT'S EAGLE RIFLE,

A quick, strong, clean Powder of very fine grain for Pistol shooting. DUPONT'S RIFLE, Fg. "Sea Sheeting," FFg and FFFg.-The Fg for long range rifle shoot-ng, the FFg and FFFg for general use, burning trong and moist.

ing, the FFE and strong and moist.

Also all kinds of Sporting, Mining, Shipping and Blasting Powders of all sizes and descriptions. Special grades for export. Also, Musket, Cannon, Mortar and Mammoth Powder, U. S. Government standard. Powder manufactured to order of any required grain or proof. Agencies in all cities and principal towns throughout the U. S. Represented by

F. L. KNEELAND, 70 Wall St. N. X N. B.—Use none but Emphil's Fg or FFg Powder for long range kide shooting.

GUN POWDER. Laflin & Rand Powder Co.

No. 29 Murray Street, New York, infesture and sell the following celebrated brands orting Fowder known everywhere as ORANGE LIGHTNING,

ORANGE DUCKING. ORANGE RIFLE more popular than any Fowder now in use.

Blasting Powder and Electrical Blasting

Apparatus.

Military Powder on hand and made to order.

SAFETY FUSE, FRICTIONAL & PLATINUM

FUSES. Pamphiets showing sizes of grain sent free. Steel.

THE EDGAR THOMSON STEEL CO.,

STEEL RAILS BLOOMS & INCOTS

General Office and Works at Bessemer Station (Penn. R. R.), Allegheny County, Pa.

New York Office, 57 Broadway.

The members of the Edgar Thomson Steel Company, Limited, have had large experience in manufacturing and in railway management; their works are the most complete in the world, with all the late improvements, and are located in the best Bessemer metal district in the United States, and their managing officers are experienced in the manufacture of Bessemer Steel.

The Company warrants its rails equal in quality to any manufactured in the United States, Rails of any weight or section furnished on short notice. Orders for trial lots solicited.

Branch Office and P. O. Address, No. 48 Fifth Ave., Pittsburgh, Pa. D. McCANDLESS,

WM. P. SHINN, General Manager

JOHN WILSON'S CELEBRATED



BUTCHERS' STEELS, SHOE KNIVES. THE TRADE MARK, IN ADDITION

BUTCHERS' KNIVES,

TO THE NAME. STAMPED UPON EVERY ARTICLE MANUFACTURED BY JOHN WILSON.

GRANTED A.D. 1766, BY THE SCHPORATION OF CUTLERS OF SHEFFIELD

UYERS ARE SPECIALLY GAUTIONED AGAINST PMITATIONS OF THE MARK, AND THE SUBSTITUTION OF COUNTERFEITS BEARING THE NAME, "WILSON," GALY.

AND PROTECTED BY ACT OF PARLIAMENT. Works:-SYCAMORE STREET. SHEFFIELD. ESTABLISHED in the Year 1750

North Chicago Rolling Mill Co.

Works at Chicago, Ill., and Milwaukee, Wis.

MANUFACTURERS OF MERCHANT BAR, FISH PLATES, PIG METAL,

IRON RAILS & BESSEMER STEEL RAILS.

CAPACITY OF WORKS.

Total Capacity OFFICES:

PROPRIETORS OF



VISE & TOOL WORKS

PICKS, MATTOCKS, CRUB HOES, HAMMERS.



Sole agents for H. Boker & Co.'s Celebrated "Tree" Brand Cutlery.

R. Heinisch's Sons Unrivalled Shears, Trimmers, Scissors, Japanned and Nickled. Ward & Payne's Sheep Shears. Peugeot Brothers' Horse Clippors.

J. W. GARDNER'S

Unequaled and "Warranted Superior to All"

Pocket Knives and Barlows. Also a full stock of

Geo. Wostenholm & Sons', W. & S. Butcher Manhattan and O. POCKET CUTLERY & RAZORS.

LAMSON & GOODNOW MFG. CO. TABLE CUTLERY,

Guns and Pistols

FISHING TACKLE

Arms and Ammunition,

Philadelphia Smelting Co., S. E. Cor. Twelfth and Noble Sts., PHILADELPHIA, GENUINE BABBITT. ALL GRADES OF ANTI-FRICTION METALS. DEOXIDIZED BRONZE.

Solders, Stereotype Metal, Gas and Steam Fittings and Fixtures, Brass and Composition Castings.

NAILS

French Points,

Window Shade Nails,

Upholstering, WAGON NAILS,

Electrotype,

Roofing Nails,

Veneer Naiis, Lubel Tacks and small Naiis of all kinds, Cabinet Nails, Barbed Lock Nails, Cigar Box Nails, &c., &c., put up in bulk, 5 lb. packages. 1 lb.

AMERICAN WIRE NAIL CO. Factory, Fifteenth and Madison Sts.



PUBLISHED EVERY SATURDAY.

THE OLDEST AND CHIEF REPRESENTATIVE OF THE IRON, HARDWARE AND METAL TRADES.

OFFICE: 44a CANNON STREET, LONDON, E. C.

ADVERTISEMENTS AND SUBSCRIPTIONS ARE RECEIVED AT THE VARIOUS OFFICES OF "THE IRON AGE," NAMELY

NEW YORK OFFICE: DAVID WILLIAMS, Publisher of The Iron Age, 83 Reade street.

PITTSBURCH OFFICE: 77 Fourth Avenue-JOS, D. WEEKS, CINCINNATI OFFICE: Merchants' Exchange-T. T MOOR. Manager and Associate Editor.

PHILADELPHIA OFFICE: 230 South Fourth Street—THOMAS SOUTHERN OFFICE: Cor. Eighth and Market Streets, Chaits

NORSON Manager.

SPECIAL FEATURES.

Notes of Novelties.—This is a department of the journal always watched with interest by the trade, as it contains an account, from week to of the novelties which manufacturers and inventors are introducing to the notice of the trade. These articles are freely illustrated.

Special Correspondents.—The Ironmonger has a deserved reputation for its special correspondence from all the principal Continental, British nanufacturing centers. The writers are gentlemen holding important positions in the districts with which they are connected, and possess facilities equiring information specially suited for the columns of the Ironmonger The Week, Legat Nows, Trade Notes, Bankruptices, Foreign s, Colonial Intings, Merchants' Circulars. Imports and Exports, &c., are each departments of the journal, containing a digest of airs of direct interests to the Iron, Hardware and Metal Trades. In addition to the above, there is a carefully classified list of Patents, together with rial Notes, French, Belgian and other Special Correspondence.

SUBSCRIPTIONS

ADVERTISEMENTS

are inserted in the Ironmonger and Metal Trades Advertiser at the subjoined rates, from which no variation can be made on any ground whatever.

Size of Page-Nine Inches Deep by Six Inches Wide.

One Advertisement of every Series of 13 Monthly, 27 Fortnightly, or 53 Weekly, will be inserted in the Ironmongers' Diary and Text Book, published toward the end of each year,

and presented to every Subscriber.

•	insertions, each net.	insertions, each net.	INSERTIONS, each net.	7 INSERTIONS, each net.	insertions, each net.	INSERTIONS, each net.	I INSERTION, net.
One pageTwo-thirds page	13.15	Gold. \$18.75 14.10	Gold. \$20.00 15.00	Gold. \$22.50 16.90	Gold. \$25.00 18.75	Gold. \$30.00 22.50	Gold. \$35.00 26.25
Half pageOne-third pageQuarter page	7.00	7.50 6.00	8,00 6,40 4,50	9.00 7.25 5.10	13.75 10.00 :8.00 5.65	16.50 12.00 9.60	19.25 14.00 11.20
One-sixth page One-eighth page One-sixteenth page	3.15	4.25 3.40 1.90	3.60	4.10	4.50	6.75 5.40 3.00	7.75 6.25 3.50

SPECIAL ISSUES.

In April and October of each year there is published a Special Issue, the circulation of which is not less than Twelve Thousand (12,000) copies.

THE IRONMONGERS' DIARY AND TEXT BOOK.

This is an annual, presented free to every Subscriber to the IRON HONGER AND METAL TRADES' ADVERTISER. It contains a large number of ruled skeleton pages for diary and other entries, and in addition much useful reference information, varied from year to year. It is handsomely bound in cloth, gilt; and as copies are used in thousands of establishments for a whole year, it is obviously a medium of exceptional value for advertisements. Sold to non-subscribers at 75 cents.

THE FOREIGN SUPPLEMENT

is published every fourth week in connection with the extensive and world-wide circulation of the **Ironmonger* itself.** The dates of its publication in 1879 will be as follows:

JANUARY 21, FEBRUARY 8, MARCH 8, APRIL 5, MAY 3 and 31, JUNE 28, JULY 26, AUGUST 23, SEPTEMBER 20, OCTOBER 18, NOVEMBER 15,

This Supplement is published in

FIVE LEADING COMMERCIAL LANGUAGES

of the world, including English, and is sent to all the countries where they are spoken, thus placing the contents of the Ironmonger not only within reach out in the native language of eighty millions of German, forty-two millions of French, twenty-eight millions of Italian, and fifty-one millions of Spanish speaking people; or, in all, over two hundred millions of inhabitants in the principal nations where the best purchasers of manufactured goods are to be found.

Advertisements are inserted in any language at the following

MODERATE TARIFF.

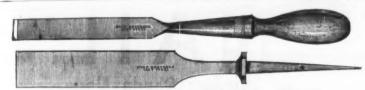
Size of Page-13% Inches Deep by 9% Inches Wide.

	13 INSERTIONS, each net.	7 INSERTIONS, each net.	3 INSERTIONS, each net.		13 INSERTIONS, each net.	7 INSERTIONS, each net.	INSERTIONS each net.
ne pagewo-thirds page	17.00	Gold. \$33.75 24.75 19.15 14.10	Gold. \$37.50 27.50 21.25 15.65	Quarter page	7.50 6.20	Gold. \$11.25 8.45 7.00 3.40	Gold. \$12.50 9.40 7.75 4.00

Advertisers will do well to use Illustrations freely. Where economy of space is an object, a left page illustrated and described, in one language, car be suitably described in four or more languages on the opposite or right page without illustrating.

THE WHOLE FOREIGN HARDWARE TRADE,

so far as our experience of twenty years is concerned, will be covered by The Foreign Supplement at least twice a year. Thus a Price List or Advertisement inserted in the frommonger and Foreign Supplement is a strikingly powerful and most efficient way of publicity, not to be compared with any of the other ordinary channels of communication.

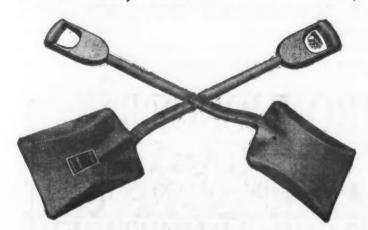


BUCK BROTHERS, Millbury, Mass.

Shank, Socket Firmer and Socket Framing Chisels, PLANE IRONS.

Gouges of all lengths and circles beveled inside or outside. Nail Sets, Scratch and Belt Awls Chisel Handles of all kinds. Carving Tools. Also small Boxes of tools of best quality.

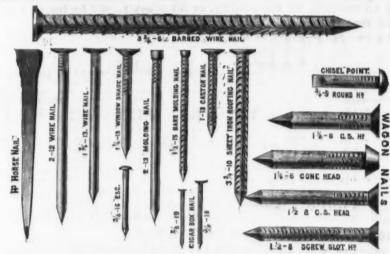
HUSSEY, BINNS & CO.,



PITTSBURGH.

SHOVELS, SPADES and SCOOPS.





HORSE SHOE &

Steel, Iron and Brass Nails and Barbed Nails Of every kind.

Roofing and Moulding Nails, Escutcheon Pins, Chair and Caster Nails, Cigar Box and Window Shade Nails, Wagon and Boat Nails. Manufactured by

Cleveland, Ohio.

DEXTER CARRIAGE SPRING

Combines Strenght, Durability.

' It is Graceful,

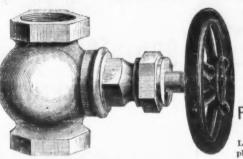
perfect Carriage Spring ever invented. Wherever it is known it is rapidly superseding all others for pleasure vehicles. It is especially recommended for use on the rough oads of new countries, as its peculiar construction relieves the strain on the vehicle and shock to the passenger, while the high Noiseless, grade of material used reduces the probability of breakage to a minimum. Beauty. Light and Easy. For circulars, prices, &c., address

.The DEXTER SPRING is the most

DEXTER SPRING CO., Hulton, near Pittsburgh, Pa., U. S. A. and also a large variety of other styles of Snaths.

McNab & Harlin Mfg. Co.,

BRASS COCKS AND VALVES,



For STEAM, WATER and GAS. Iron Pipe and Fittings. PLUMBERS' MATERIALS New Illustrated Catalogue and Price List sent by express to the Trade on ap-

56 John Street, N. Y.



Factory, Paterson, N. J.



SANDS' TRIPLE MOTION WHITE MOUNTAIN ICE CREAM FREEZERS. tside, tin inside. No secretions of oxide of sine need be feared in the use of this Freez, perfect in results. Send for descriptive circular and discounts of this celebrat WHITE MOUNTAIN FREEZER CO., Laconia, N. H.



Hardware Manufacturers' Warehouse.



STANDARD NUT CO.,

Pittsburgh, Pa.,

MANUFACTURERS OF



HOT PRESSED Square & Hexagon Nuts,

R. R. FISH BARS, BOLTS.



SPIKES,

RIVETS, &c.

LIGHTNING HAY KNIVES,

WEYMOUTH'S PATENT.



This knife is the best in use for cutting down hay and straw in mow and stack, cutting fine feed from bale, cutting corn stalks for feed, cutting peat and ditching marches.

The blade is best cast steel, spring temper, easily sharpened, and is given

ing universal satisfaction. A few moments' trial will show its merits, and parties once using it are unwilling to do without it. Its sales are fast increasing for export as well as home trade, and it seems destined to take the place of all other Hay Knives.

They are nicely packed in boxes, one dozen each, of 30 lbs. weight, suit

Manufactured only by

HIRAM HOLT & CO.,

East Wilton, Franklin Co., Maine,

For sale by the Hardware Trade generally.

able for shipping by land or water to any part of the world.





SPRINGFIELD, VERMONT.

THE "OLD RELIABLE" UNIVERSAL Clothes Wringer.



Improved with Rowell's Double Cog-Wheels on oth ends of each roll.

Over 500,000 sold!

nd now in use, giving "Universal" satisfaction EVERY WRINGER WARRANTED.

Be sure and inquire for the "Universal." Sold by the Principal Jobbers in Hard-ware and House-Furnishing Goods

Metropolitan Washing Machine Co.

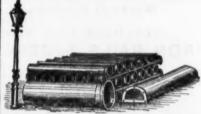
32 Cortlandt St., New York.

WM. S. CARR & CO.



CARR'S PATENT Water Closets.

PUMPS, CABINET WOOD WORK, &c. 106, 108 & 110 Centre Street, ory. Mott Haven. NEW YORK.



Philadelphia,

Cast Iron Pipe

POR WATER AND GAS. Lamp Posts, Valves, &c., Mathew's Pat. Anti-Freezing Hydrants. 400 CHESTNUT STREET.



CHINISTS' TOOLS. BEST AND CHEAPEST.

Send for catalogue to WILLIAM COOKE, 6 Cortlandt St ,

NEW YORK CITY. WATSON'S NORTH CAROLINA

TURPENTINE TOOLS. Made of the best English steel and guaranteed. Any broken by fair usage exchanged.

ARGUS COTTON BATTING or straining rotin is the best ad cheapest in use. Liberal discount, Send for price list.

R. DUNDAS CHATER, Sole Agent, 187 Pearl street, New York.

Store State State

PRESSED STEEL

J. COMLY, Patentee

PHILADELPHIA. (Corrected Weekly by Lloyd, Supplee & Walton.) Terms, 30 days. For 60 or 90 days, interest added at 10	1
Anvils. per cent. per annum. Peter Wrights, ♥ D, gold. 10/40 Over 250 lbs. 11 c net Wilkinson's ♥ D, gold. 11 c net Eagle (American). 90 ₱ D—dis 20 %	
Eagle (American). 90 W m—dis 20 % A pple Parers. Reading No. 72. per doz \$4.00 net " No. 74. 5.00 net	8
Apple Parers. Reading No. 72. No. 74. No. 75. No. 75. No. 75. No. 75. No. 76. Little Favorite, corer and slicer. Lots of 10 to 25 dozen special price.	9
A Xes. Mann's Red Warriorper dos. \$8.00 @ 8.50 net Red Indian	1
Crown Prince Augers and Auger Bits. Bates' Nut Augers. Cook's Augers. dis 50 6 54 55 Cook's Augers. dis 50 6 50 55 Watrous' Ship Augers. dis 15 8 Benjamin Pierce Auger Bits. dis 40 5 6 50 55 Griswold Auger Bits. dis 50 6 50 55 Jennings'	1
Stearns' Pat. Hol. Augers, list \$48 7 dosdis 25210	,
Balances. Light and Common	
Bolt and Rivet Clippers. Chambers' No. 1. for \$\frac{1}{2}\$ bolteach, \$7.50 \\ No. 2, \frac{1}{2}\$ in	
Boring Machiness	
Bolts.—Eastern Carriage Boltsdls 75&3 %, cash Philadelphia dls 75 Stanley, Wrought Shutterdls 95 % Braces.—Barber'rdls 40&5 %	In cu
Braces, - Barber'r dis 408 5	13 43 13
Cast Loose Joint, Narrow dis 50&10 \$	33
American Ball die 35 & Butts,—Cast Fast Joint, Narrow die 50210 & Cast Loose Joint, Narrow die 50210 & Broad die 50210 & Broad die 50210 & Broad die 50210 & Broad die 50210 & Gast Loose Pin die 50210 & Gast Setto & Jap'd die 50210 & Gast Setto & Gast S	N. M. W.
Parker	3 3 1
Galvanized Pump	I I
Socket Firmer	1
Casters Bed dia 40 % 10 % Plate	11
Cuttery, — Walden Pocket dls 35% 5 seah Landers, Frary & Clark, J. Russell & Co., Lanson & Goodnow Mis. Co. and Meriden Cuttery Co., Manu- facturers' prices net. Drawing Knives. Har Mig. Co. s dls 65, 5% 5 Adjustable Handle dls 36	1 2 2
Fry Pans. Tinned	3
FO 0 1 2 3 4 5 6 7 8	244 25
	22
Spencer	37
Geneva Fluter	ZZZZZ
Hinges. Strap and Tdis 50820 %	NN n
Globe Net list 30 23 21 25 34 23 Globe Net list 30 23 21 20 19 18 Clinton 22 20 19 18 17 20 19 18 17	15
Southern, all sizes. P 5 46. net Discount on Ausable and Clinton, 20 %; Globe, net. Locks and K nobs. Branford. Gaylord Cabinet. dis 2582 % c sh	25 15
Discount on Ausable and Clinton, 20 %; Globe, net. Locks and Knobs. Branford. Gaylord Cabinet. Gaylord Cabinet. His 23% 52 % cash Scandinavian Padlocks. His 23% 52 % cash Scandinavian Padlocks. His 25% 50 % 61 % 62 % cash No. 57 \$5 % 60 7.50 % 50 10.60 12.50 % dls 50 % His 25% 50 % 61 % 63 % dls 50 % His 25% 50 % 65 % 65 % 65 % 65 % 65 % 65 % 65	15 15 19
Square Caudle and Oil	12 16 Ri 35 25 25
Guards, co cents extra per dos. and dis 30% to \$ La wn Mowers.—Pennsylvania dis 30% to \$ Philadelphia dis 30% to \$ Excelsior dis 30% to \$ Lawn and Garden Pumps. Holland Patent List \$5,00 dis 20 \$	134
Mattacks, Long and Short Cutter	Ju No Gi
Lincoln's Landers, Frary & Clark's Petroleum. dis 5952&10 \$ Landers, Frary & Clark's Petroleum. dis 20&10 \$ Brass Liquor Cooks. dis 45 \$ Cork Lined dis 56 \$6 \$5410 \$ Ment Cutters. Dixon's. dis 25 \$6 \$20 \$2	Di
Long and Short Cutter	No No
Pinnes,—Ohio Tool Co. dis 35 % Scloto. dis 45 % Auburn. dis 35 % New York Tool Co. dis 35 % Balloy. dis 45 % dis 25 % to 5 dis 25 % to 5	No.
Balley dla 28tro 5 Plane I rons.—Ohlo Tool Co dla 20tro 5 Butcher 8 gold 8. \$4.50 Planeb and Levels gold 8. \$4.50 Planeb and Levels dla 56tro 5 Stanley 'A djustable dla 66tro 5 Picks.—New list dla 9.5 Punps.—Blckford	No
Picks. New 1981. 47.00, dls 20810 % Pumps. Bickford. \$7.00, dls 20810 % R ules. Stanley Boxwood. dls 20810 % Stanley Ivory. dls 60810 % Sicelyards. Hart's Pattern. dls 60810 %	Bo De Ch
# dox \$14.50 17.75 21 00 28.50 31 00 25.50 Lbs \$0 foo 150 300 23 03.55 00 American Pattern dls 25 @ 258.10 5 # dox \$5 0 100 150 200 25 0 300 English Pattern dls 26 25 \$ 0.00 150 200 25 0 300 English Pattern dls 20 @ 25 \$ 0.00 150 200 25 0 300 English Pattern dls 20 @ 25 \$ 0.00 150 200 25 0 300 English Pattern dls 20 @ 25 \$ 0.00 150 200 25 \$ 0.00 150 25	1 1
16 doz\$7.00 8.67 10.67 12.67 14.67 16 67	Eq Un Sq Str
Squares, Steel and Iron	Ma Ma
Cilpper No. s. Painted Red. Boxed and Sharpened \$\psi \omega \text{vdox} \ \text{87.25 net} \\ \text{Sn wa.} \to \text{Disston's Hand, Panel and Rhp} \\ \text{dis 20.5} \\ \text{Disston's Circular} \\ \text{Cross-Cut No. 2. Plain Tooth \$\psi \text{tt.} \ \text{45c net}} \\ \text{Patent Tooth \$\psi \text{tt.} \ \text{45c net}} \\ \text{Champion Tooth \$\psi \text{tt.} \ \ \text{35c net}} \\ Short-lead of the control of the contro	and and and
Shavels and Spades. Rowland	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Mrs. Potts' Patent. dia 3355 % Stone, —Arkansas Oll Stone	134 136 10d 8d
Turkey OH Stone No. 1	4d.
	Chi Cui Boo
ACCOUNTS 100 100 100 100 100 100 100 100 100 10	5d. 4d.

		J
10 (cet et %	Speons. Ids 40 @ 40\$5; German Silver dis 50\$to Britannia, Boardman's dis 50\$to Britannia, Boardman's dis 50\$to Britannia, Boardman's dis 50\$to dis 50\$to	SKKKKK tkt
et et et et	Parker's dis 65	
BE TANK	Traps. Genuine Oneida—Newhouse	200
MANAMA M	Wrenches, — Agricultural— # dor to in, \$5.60; iz in., \$5.40 net; case dis 5; Coest Genuine	
XXXX X	No. 10 to 18	
MMMI	PITTSBURGH.	
X LXX XXX	Merchant Iron. TERMS.—Note or acceptance at 60 days, with current rate of exchange on New York, or a discount of 2 per cent. for cash, if remitted within 10 days from date of invoice.	-1
MANANAN M	1½ to 4 by 1½ to 1 inoh. 2.54 4½ to 6 by 1½ to 1; " 2.66 1½ to 6 by 1½ to 1½ " 2.99 1½ and 1½ by 3½ to 1½ " 2.44 1 and 1½ by 3½ to 1½ " 2.79 1½ 3 and 1½ by 3½ to 1½ " 2.79	20 10 10 10 10
NH HMHMM	### Heavy Bands. 134 to 6 by 14 and 5-16 inch	2000
MANANA II M	3 to 6 by \$6 to 3-16	
方d 男男 男男 h我小	\$6\$ and 9-16, Noa. 13 to 16. \$2-20 \$6\$ and 11-16. 13 to 16. 4-70 \$6\$ and 13-16. 13 to 16. 4-20 \$1\$ and 136. 13 to 16. 4-20 \$1\$ \$6\$ to 15. 3.80 15 to 15. \$2\$ and 9-16, 17 to 20. 3.80 15 to 15. \$6\$ and 9-16, 17 to 20. 5.50 5.80 \$6\$ and 13-16. 17 to 20. 5.50 \$6\$ and 33-16. 17 to 20. 4.50 \$6\$ and 13-16. 15 to 10. 4.50	
××	1-10c w h extra for each gauge lighter than above indicated.	1
% %	1 to 176. 2.50 % 60 9-16 2.70 2 % 10 2 % 2 % 2 % 2 % 2 % 2 % 2 % 2 % 2 % 2	- 1
% % dd t	\$\\ \tag{10.2} \\ \tag{10.2} \	
t	Horas Shoe.	
化比比系系	Wagon Hox Iron. 3.50 Juniata 30 F B over American. Sheet Iron. Common. Charcoal Indian	
31	Wagon Box Iron 3-90 Wagon Box Iron 3-90 Wagon Box Iron 4-00 Sheet Iron 4-00 Sheet Iron 4-50 So. 14-50 4-50 6-50 So. 14-50 6-50 6-50 So. 14-50 6-50 So. 14-50 6-50 So. 14-50 6-50 So. 14-50	
· · · · · · · · · · · · · · · · · · ·	Wagon Box Iron	
HILES N NN NIGHT	Wagon Box Iron 3-50 Sheet Iron 4-50 Sheet Iron 3-50	
titas s ss swar sarrat. hh	Wagon Box Iron 3-90 Wagon Box Iron 4-00 5	
HERE IN MEN MINISTER. HAVE IN THE MEN IS	Wagon Box Iron	
地地不是 死 冤冤 发动物 经进了进工人 自由美 死 死 口生 医紧张 医 医	Wagon Box Iron 4.00 Sheet Iron 4.00	
CHEST TO THE THE CHEST TO BE T	Wagon Box Iron	
地地不是 死 冤冤 发动物 经进了进工人 自由美 死 死 口生 医紧张 医 医	Wagon Box Iron	
地地不是 死 冤冤 发动物 经进了进工人 自由美 死 死 口生 医紧张 医 医	Second S	
SERVICE SERVICE TO THE SERVICE	Second S	
HERTH N NN NOW CONTROL . IN N N OR NEED & SET SEEDSTEELSELS	Second S	
SERVICE SERVICE CONTRACT TO THE SERVICE SERVIC	Second S	6
SERVICE SERVICE STATE OF SERVICE SERVI	Second S	6
KRESS S SS SUN 1287841. WAS S OR ESS S SE SEESESEESE LEES LEES SEESESEESE	Second S	6
MERCH NEW MINISTER. TO BE SEE SEE AND SEE SEE SEE SEE SEE SEE SEE SEE SEE SE	Second S	6

1 1	THE IRON AGE.						
SERVICE ORDERED ORDER OF THE PROPERTY AND	Tobacco. 2.85 6d rod	to 7d. to 8 or 0 igon T 2 and 1 in 2 and 2 and 2 and 3 and 4 and 6 and	ool Steeding the color of the c	in Tool. sizes in in.		"HEALTH," "TUBULAR," Ample Discounts to the Trade. The Best KEYSER "I Gold's Hea Send for Catalogue. AXLES, SPRINGS, TOO GUY C. Health to 6 BRASS CRUCIBLE FOR MELT	
0	Single Stren	gth.				0	
e e	Size.	AA.	A.	B.	C,	Sunny S	
e	6 x 8 to 10 x 15	\$7.50 8.50	\$6.75 7-75	86.25	\$5.75 0.50 7.75	ounny o	
		10.75	9.75	8.74	7-75	_	
	10 X 22 10 20 X 30. 15 X 36 10 24 X 30. 26 X 28 10 24 X 36. 26 X 26 10 05 X 44. 27 X 46 10 30 X 54. 30 X 56 10 30 X 54. 30 X 56 10 30 X 54. 30 X 56 10 34 X 56. 30 X 56 10 34 X 56.	13.00	10.75	9.00		Lumber Pencils, F	
10	26 X 46 to 30 X 50	14.50	13.25	10.75		Lumbor Fondino, I	
e	30 X 53 to 30 X 54	-3.00				WILL E	
ic ic	34 x 58 to 34 x 60				- 1	WILE,	
C	Double Strength.						
e		13-75	11.00	10.00	35	Nos. 1324, 1326, 13	
e		17.25	15.75	14.00	10.90	103. 1024, 1020, 10	
0	26 x 28 to 24 x 36	19.75	17.25	14.50			
C	26 X 46 to 30 X 50	23.25	21.25	15.75 17.25 18.00		Messrs. HALL	
e	18 X 22 CO 20 X 30. 15 X 36 CO 24 X 30. 26 X 28 CO 24 X 36. 26 X 26 CO 26 X 24. 26 X 36 CO 30 X 34. 30 X 36 CO 30 X 36. 30 X 55 CO 30 X 56. 30 X 55 CO 34 X 56.	25.75 27.75	23.25	19.25		HOSSES, HALL	
	TA W SHEED OF W SO	2.5	- 1				

HYATT'S PATENT SPRING BOLT

29.25 27.75 24.00 33.25 30.00 27.75



Patented Jan. 29th, 1878.
For Fastening Cabinet Ware, Closet and House Doors, &c.

We call the attention of the trade to these Wrought Brass and from Bolts, as being the best and cheapent in the market. Sizes, two inches and upward, both plain and neck bolts. Two screws fasten the bolt and bed-plate to the wood; no others are required; the bed-plate are made of brass, from which the

BRASS GOODS MFG. CO., 43 Chambers St., New York

THE UNIVERSAL IFTING JACK,



For lifting carriages, wagons, heavy loaded teams, fire engines, railway cars, &c. Four sizes, with patent rubber cushions; will not mar the finest painted carriage. DINSMORE MFG. CO.,

235 Washington St., BOSTON. Silver medal awarded by Massachusetts Mechanic Charitable Association,

SARGENT & CO., 37 Chambers St., New York. MACOMBER, BIGELOW & DOUSE, 156 Oliver St.

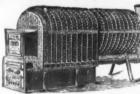


CORRUGATED AND CRIMPED IRON ROOFING & SIDING,

5 Dey Street, New York.



GOLD'S PATENT HEATERS.



"HYGEIAN," "PERFECT."

Special Rates to Agents.

The Best Heaters in the World. AND THE

KEYSER "PEACE MAKER" HEATERS.

Gold's Manutacturing Heater 624 to 642 East 14th St., New York.

AXLES, SPRINGS, TOOLS, MACHINERY, CARRIAGE MAKERS' SUPPLIES.

Guy C. Hotchkiss, Field & Co.



FOR MELTING ALL KINDS OF METALS, And Manufacturers of

Sunny Side Stove Polish.

Lumber Pencils, Foundry Facings and Lubricating Plumbago

WILE, SIEDEL & CO.,

Nos. 1324, 1326, 1328, 1330, 1332 & 1334 Callowhill St., Phila.

Messrs. HALL & CARPENTER, 709 Market St., Phila.



WM. F. FOREPAUGH, JR. & BROS.
Manufacturers of SUPERIOR OAK TANNED

EATHER BELTING. Best Quality Lace and Strap Leather on Hand, Rivets, Belt Hooks, Dubbing, &c.

N. W. Cor. Randolph and Jefferson Sts., PHILADELPHIA.

137 All Belts Warranted. Orders by Post immediately attended to.

Morse Twist Drill and Machine Co.,

NEW BEDFORD, MASS., Sole Manufacturers of

Morse Patent Straight-Lip Increase Twist Drill, Beach's Patent Self-Centering Chuck, Solid and Shell Reamers. BIT STOCK DRILLS,

Drills for Coes, Worcester, Hunter and other Hand Drill Presses. Beach's Patent Self-Centering Chucks, Center and Adjustable Drill Chucks, Solid and Shell Reamers. Drill Grinding Machines. Taper Reamers, Milling Cutters and Special tools to order.

All Tools exact to Whitworth Standard Gauges.

EDWARD S. TABER, Trea



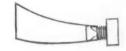
RHODE ISLAND HORSE SHOE CO.,

PERKINS and RHODE ISLAND PATTERNS of

HORSE AND MULE SHOES,

THRESHING MACHINE TEETH









We manufacture all styles, such as

MASSILLON, BUFFALO PITTS, ALTMAN & TAYLOR VIBRATOR.

CHICAGO PITTS

SPRINGFIELD PITTS,

WOOSTER, VERMONT and

NEW YORK PATTERNS and others.

Send for Prices.



Providence Tool Co., PROVIDENCE, R. I.

Or to J. H. Work, 13 Pearl St., Boston, Mass.; S. H. & E. Y. Moore, 68 Lake St., Chicago, Ill.; Henry B. Newhall, 11 Warren

PIPE-FITTERS'



STRONG, LIGHT, EFFICIENT, CHEAP.



airements of the large number of persons who have use for such an article, we in ir Improved Pipe Visc. This Visc can be used either as a permanent fixture to need to angle plate or can (unlike others) be held between the jaws of any Machinisties; the movable jaw being OPEN ON SIDE permits work to be gripped at any out slipping it in from end, and allows of Fittings arise meld securely; the Box in Iron, the Screw of Wrought Iron, and the remainder of Solid Steel throughout Jaws can be duplicated and replaced at any time when worn out. It is a very condapted to the wants of Plumbers, Pump Fitters, Well-Drivers, and all who have use rong, light, efficient and cheap which can be readily carried about with kit of tools

MANUFACTURED BY PANCOAST & MAULE,

Wheeler, **Ma**dden & Clemson

MFG. CO., MIDDLETOWN, · · · · NEW YORK.

WARRANTED CAST STEEL

Of every description, including Circular, Shingle, Cross-Cut, Mill, Hand, WOOD SAWS, Etc., Etc.

AMERICAN SAW CO.

Movable Toothed Circular Saws, PERFORATED CROSS-CUT SAWS

And SOLID SAWS of all kinds.

Trenton, N. J.

HUNDLEY & HANKS,





Handles and Spokes, 79 Reade Street and 97 Chambers Street, - - NEW YORK.
HARDWARE COMMISSION MERCHANTS.



TURNED MMMMMMMACHINE SCREWS

Heads and points to sample,
IRON, STEEL and BRASS. JOHN FELLOWS,

Successor to LYON & FELLOWS.) Factory and Office, 14 Dunham Place, Williamsburgh, N. F.



Manufacturers of GALVANIZED PUMP CHAIN FOR CHAIN PUMPS.



Expanding, Self-Draining RUBBER BUCKET.

L. M. RUMSEY & CO.





ARMSTRONG'S Adjustable Stock and

For Pipe and Bolts,

Have the following advantages:

1st.—The Armstrong Improved Dies can be adjusted to the variations in the size of fit-

2d.—The Armstrong Dies, by reason of their peculiar cutting edge, can be worked with much less labor, and accomplish the desired results in less time, than with the solid

3d.—The Armstrong Dies have a double taper, that is, the taper at the entrance for the first few threads is greater in degree than the standard taper, which forms a lead to the Dies, causing them to start on the pipe without filing, even when there is a swell or burr, and requiring no pressure whatever to start the Dies on the pipe.

4th.—The Armstrong Dies being made in two pures instead of one (as is the solid Die), can be more perfectly constructed; the cutting edges reached more directly; the work does with resource the start that the start was the start of the start

done with greater precision and uniformity, by which they accomplish a much better re-

done with greater precision and uniformity, by which they accomposed sult.

5th.—The Armstrong Dies can be sharpened without drawing the temper, and can be kept in good condition easier and with less expense than any other Dies ever offered to the public. A mechanic can sharpen these Dies, and is not obliged to send them to the manufacturer, as is the case with solid Dies when they become dull.

6th.—The Armstrong Dies are interchangeable in the stock, and although adjustable, do not need adjusting to cut the standard size for which the dies are made. The adjusting is only done when the irregularity or variations in the fittings make it necessary. There are corresponding marks (s) on the Stock and on the Dies (S) and when these marks are brought into line the Dies will cut the standard size.

For sale by leading dealers in Hardware and Steam and Gas Fitters' Tools. For further particulars address,

F. ARMSTRONC, Bridgeport, Conn.



THE "ABBE" PATENT **Bolt Forging** Machine.

Any Imaginable Shape of Head can be Produced.

All its working surfaces above the Water and

S. C. FORSAITH & CO.,

Manchester, N. H. Also Manufacturers of

The "Pamer" Power Spring Hammer.



15th Amendment **OUSE TRAP** SELF SETTING.

Is a perfect Mouse Catcher and omical Toy combined. Most saleable article in the market.

M. A. HUNT MFG. CO., Cincinnati, Ohio, Sole Manufacturers. old by all jobbers of Hardware

FERNALD & SISE,

"THE BOSS" JACK-SCREW R. D. WYNN,

Windsor, Vt., U. S. A.,

Sole manufacturer of the above Screw. Indorsed by builders, railroad and mining men as the best screw jack in the market. Also manufactures Press Screws, Lard and Wine Presses, Tackle Blocks, &c. Circulars and prices, address as above. (Please say The Iron Age.)

Agents. Pugaley & Chapman, & Liberty St., New York. Sam'l May & Co., 16, 18 & 30 Oliver St., Boston.

SIBLEY'S IMPROVED LEVELING INSTRUMENT.



Mounted Compton. Price, \$10. rade supplied with one or two instruments at a discount. When ten or more instruments in all ordered, a special discount will be given from the Catalogue containing full directions mailed on

BICKNELL & COMSTOCK, Proprietors,



HYDRAULIC JACKS AND PUNCHES,



Raising Heavy Weights, Punching Iron, &c.

HYDRAULIC PRESSES

On hand and made to order. Second-hand Hydraulic Presses bought and sold. Machinery for Polishing and Buffing Metals. Send for Cir-

E. LYON & CO., 170 Grand Street, NEW YORK.

SPECIAL NOTICE.

ENGLISH,

FRENCH,

GERMAN,

PORTUGUESE and SPANISH,

and that he bestows special attention upon a strictly correct rendering of Technical Expressions in matters relating to Machinery, Motaliurgy. Hydraulics, &c. The very best reference with be furnished from leading manufacturers in this city, Philadelphia and elsewhere, for whom he has translated. If desired, estimates will be procured for the setting up, electrotyping and printing of catalogues, &c., in the above languages.

Native Procurem Communication of the Chiladelphia and Printing of Catalogues, &c., in the above languages.

Native Procurem Communication of the Chiladelphia and Printing of Catalogues, &c., in the above languages.

Native Procurem Communication of the Chiladelphia and Printing of Catalogues, &c., in the above languages.

Native Procurem Communication of the Chiladelphia and Printing of Catalogues, &c., in the above languages.

Native Procurem Communication of the Chiladelphia and Printing Catalogues, &c., in the above languages.

Native Procurem Communication of the Chiladelphia and Printing Catalogues, &c., in the above languages.

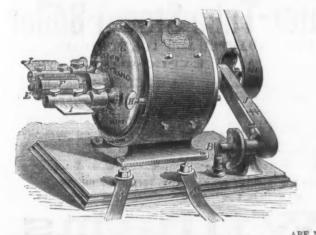
**Native Procurem Cat

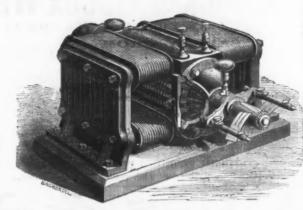
Metal Reporter of The Iron Age, 83 Reads St., New York,

WESTON DYNAMO-ELECTRIC MACHINE CO.

286 Washington Street, Newark, N. J., U. S. A.,

Machines for Electric Light, Electrotyping and Electro-Plating.





THE MOST POWERFUL, SIMPLE AND COMPACT ELECTRIC LIGHT

By actual tests this machine has been found to yield more than double the amount of light per horse-power obtained from the best machines built in this country. Please send full particulars regarding buildings or localities to be lighted, available power, &c.

Centennial Gold Medal American Institute, 1876. Medal of Superiority, American Institute, 1877. Centennial Medal, Philadelphia, 1876. Paris Medal, 1878.

TO THE HARDWARE TRADE.





These we manufacture in every variety of style. Your especial attention is called to our "SILVER GLASS," and "ENAMELED" KNOBS, the latter being an entirely new article. These we offer to the Trade, feeling confident of their superiority to any other door knobs in the market. Our new method of extension is simple, durable and

Our Knobs can be adjusted to doors of any thickness without the annoyan of the old-fashioned washers and pins We feel confident that a trial will make plain their merits.

Very truly yours,

THE STAR SALT CASTER CO., BOSTON.





W. MINER & CO., Manufacturers of

SAW MILLS, Parallel Edges, Rakes, CIRCULAR



Plaster Sowers, &c. REAPERS, BELMONT, Allegany Co., New York.

MOWERS AND



HAMMOND'S Springs Window

Veazie Fasts. P C sets 4.00 Veazie Fasts. P C sets 6.50 Shedd's	Howe
Shedd's. PC sets 7.00 Blind Hinges.—Mall. Hook, 3 holes PC sets 6.00 Brnd Awl Handles.—	Scales.—Fairbanks Howe Screws.—Alken's Flat Head Iron. American Flat Head Iron. Brass. Round-Head Grilley Nickel-plated Plane Com
Blind Hinges.—Mall. Hook, 3 holes. P C sets 6,00 Brind AW Handles.—Phoenix Adjustable. P doz \$2.00 Beits.—Norway iron Carriage. dis 75 & Common dis 75.810 P borax.—Refined. P b 100 Borring Machines.—Eagle Upright. each, \$2.75 Eagle Angle. each, \$2.75 Snell Augers. Pset 1.00 Braces.—Barber's. dis 60.8 Y Set 1.00 Braces.—Barber's. dis 60.8 Y Sept 1.00 Braces.—Barber's. dis 60.8 Y Spofford's.	Round-Head " Iron
Borax.—Refined# b 100	Grilley "Nickel-plated Plan
Eagle Angle	ShavesKimball's
Braces,—Barber's	Watrous. Shears. American Shear Co. Shot. Tatham's. Shovels. O. Ames.
Bracket Saws.—Holly Seroll Saweach, \$2.25	O. Ames, other brands
Bracket Saws, extra quality, to No. c Were flore	Shovels.—O. Ames O. Ames, other brands. M. H. & D. Oxford, Birmingham Pattern. Snow Shovels.—Malleable tips. Shates.—Union Acme. Spoons.—Tinned Iron. Rogers' A No. 1. Stock and Dies.—King's. Talks.—A Field & Son's. Pittsheld.
Lester dia 25 4	SkatesUnion. Acme
Bracket Saw Blades. Griffith's patent all numbers Perces are	Britannia
Brnckets.—M. H. & B. Flower Pot dis 50 % 10 % Bronzed Sneu, M. B. & D. list	Stock and Dies.—King's
Bronze Hardware.—Norwalk Lock Co.dis 40&10 % Butts.—Union Fast Joint	Pittsferd, Genuine Ceida, Imitation, H. & N. Blake's. Tree Scrapers.—No. 1.
Japanned Acorndis 65&10 %	Oneida, Imitation, H. & N Blake's
New Rogers, all Iron. each, 82.25 Brucket Saw Bindes. P gross 7cc Bronzet Interver. Saw Bindes. P gross 7cc Butts. Union Fast Joint dis 3ck 10 gross 10	Tree Scrapers.—No. 1.
Union Soiral Spring. dis 2 s Carriage Jacks. dis 2 s Carriage Jacks. P. doz \$18.00 in 1.00 in	No. 2. No. 3. Vises.—Simpson's Adjustable
No. 136	Vises.—Simpson's Adjustable. Howard Vise Co. P. L. & Co., Solid Blacksmiths' new list. Weather Strips.—Packer's. Browne's Flexible Rubber. In 20 feet boxes; No. 1, § in. wide, P ya. 2, § in., 15c. No. 3, § in., 20c.; No. Valentine's Felt Moulding. Black Walnut Spring Weather Strips. Window Springs. Babcock's No. 9. Wire Goods.—Gate Hooks and Eyes. & list Wrenches.—A. G. Coo's. Girard Mg. Co.
"Universal"	Browne's Flexible Rubber
No. 2	valentine's Felt Moulding.
No. 3	Window Springs
Cards.—Watson's makeHorse and Curry dis 2336410 % Cotton	Wire Goods Gate Hooks and Eves
Wooldis 25&10 % Casters.—Bed and Tabledis 45&10 %	Wrenches,-A. G. Coe's
Chain.—Traces of 6, 10, 4, streight 3 pair 40c	Girard Mfg. Co Girard Agl
Coil 3-16.	WringersUniversal, No. 2. Universal, No. 21/9.
" 5-16	Wrenches.—A. G. Coo's Girard Agl. Wringers.—Universal, No. 2. Universal, No. 256. Novelty, No. 10. No. 25. Excelsior, No. A. No. B. No. B. No. CC. Novelty Set Tub. E. Eureks.
" 7-16	Excelsior, No. A
Red, Carpenter's	Novelty Set Tub, E
Chisels.—Hart, Bliven & Mead, Framingdis 70 %	Keystone, Wood Frame No. 11/2
Buck's Shank, Framingdts 30 %	Keystone, Wood Frame No. 1½. Keystone, Wood Frame No. 2½. Iron Erame No. 2½. Peerless 2 doz. No. 2½, 60.00; No. 2, 63.00 Unique, No. 1
Japanned dis 20 %	dis 50k10 5. Special rate for Export.
Cordage.—Manita, usuai trade dis 10 13 C	St. Louis Metal Market
Cow Ties	(Corrected Weekly by Mesora, R. Selleu
No. 35, 3 ft. " " with snap # doz 3.80 No. 40, 356 ft. " " with toggle # doz 3.00	Tin Plate. DX, 12/6x17, B.
No. 45, 336 ft. " with snap	Tin Plate. IC, 10x14, Best Char. \$7.25 DXX, 1256x17, B. 1X, 10x14, Best Char. \$7.25 DXXX, 1256x17, IC, 12x12, 44, 45, 45, 45, 45, 45, 45, 45, 45, 45
No. 55, 4 ft. with snap or doz 4.75	1X, 12X12, 9.25 IC, 20X28, IC, 14X20, 7.25 IX, 20X28,
Con Hods.	13, 103.4, 9.2) DAA, 129.817 13, 123.13, 9.2; R; 203.26, X; 21, 23.26, X; 21, 23.26, X; 21, 24.20,
CutleryPocket, American Shear Co.'sdis 40 % Butcher Knives, "Woods," Lap Boisser.	IXXXX, 14X20, B. Char 15.25 PK, 14X20, BUSE 1C, 12X24.
Square Handle	IX, 12X24, 0.50 IX, 20X28, IC, 12X14, Best
Sticking.	IXX, 14X14, " 18.25 IC, 10X20,
Skinning dis 33% S Butcher, Common Round Handle, "Woods", dis 35% Shoe Knives, "Woods", dis 15% Dividers,—Cook's, dis 25%	Dic, 149x17, 7-25 Pr BOX 225ah b Sheet Iron. Com'n. Sm'th. St. U. D. b. No. 14 to 16. 3-400 4-200 No. 18 to 20. 3-500 4-200 No. 26 to 24. 3-500 4-200 No. 26 to 3-500 4-400 No. 27 to 3-500 4-500 No. 27 to 4-500 No. 27 to 4-500 No. 27 to 4-500 No. 28 to 4-500
Dividers.—Cook's	No. 14 to 16
	No. 22 to 24
Crown	No. 27
Door Stops.—" Thurston's"	No. 1 Stained—No. 9, 10, 11, 12. Tare 22 lbs. to Bdle. For less than Bdle. Patent Planished Iron.
Morse Straight Shankdis 25 %	Patent Planished Iron. No. 24 to 27, A quality
Alden's	No. 24 to 27, A quality No. 24 to 27, B For less than Bdle, add 1/40 W b. Galvanized Sheet Leau.
Crown.	For less than Bdle, add \$\frac{1}{2} \times \text{in} \text{Vanisted} \text{Figs.} Juniata, or ist quality, discount for full b Block Tins. Banca, Large Pigs
Felice Pintes.—Wrought	Banca, Large Pigs22c Eng. Ref'd, SI Straits, Large Pigs18c Bar
American File Co	Solder. B. 8. & Co.'s Extra Half and Half
American File Co. dis 30 % Nicholson dis 35 % Nicholson dis 35 % Fluting Machines. # dox \$35.00 Geneva. # dox 13.40 % dox 13.4	R. S. & Co.'s Extra Haif No. 1, in Bars
Rochester	Pig Lead.—Pigs5c In Bars
Forks. W. C. & Co., Manure dis socto \$	Antimony. Bismath
	Stateol
Genuine German, No. 125, 1-32 to 8-32, per doz \$1.00 Pierce's	Nickel. Cracibles.—Dixon's
Giass Cutters.	No. I W M. 160 I No. n
Giass Cutters.	No. I W M. 160 I No. n
Giass Cutters.	No. I W M. 160 I No. n
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.
Giass Cutters.	No. 1.
Ginss Cutters. Combination Class Cutter and Knife Sharpener. Grub Hoes.—K. P. & Co.'s No. z # doz \$1.00 Hammers.—Maydole's # doz 7.50 Hammers.—Maydole's dis 15 \$ Hammond's dis 20 \$ Hangers & Reilers.—Anti-Friction dis 50x10 \$ Climax dis 50x10 \$	No. 1.

BOSTON.

Turn Table... Improved Turn Table & Push-off Lightning... 's Turn Table and Push-off.....

Hudson's Tools.

Anvil & Vise.—
No. 1, 8450; 2, 375; 3, 3.00 e
Augurs & Bitts.—Sneil's
L'Hommedieu's Ship Aug

Hommedien's Ship Augers... nning's Bitts... ook's Bitts... epardson's Double-Cut Bitts

Stearn's Extension Hollow Augers Bonney's

Bells, Connel's Crans Bird Cages, Japanned M. B. & D., reduced list, 1879 Blind Fasts.—Lock Fasts...

Handled.

Dowse Ax Haudles.— Oak Extra, 31 In., No. A 34 In., No. B 4 In., No. E 34 In., No. E 4 In. of 34 In.,

Plumb & Levels, Stanley, R. & L. Co. dia 55% to 5 Pocket & nives. American Shear Co.'s. dis 33168 to 5	
American Shear Co.'s	
W. C. & Co. reduced list dis sale &	
Acme or Excelsior, 1% inper doz 18c	
Pulleys Acme of Excelsior, 134 in per doz 18c Pulley Blocks 210 210 210 Pulley Blocks 210 210 210 Pulley Blocks 310 310 310 310 Pumps Union Manufacturing Co. dis 40	
" Pitcher Spout dis 50 7	
Rivets.—Black	
Copper	
Rules.—Stanley Boxwood, dis 7ck to 2	
Sadirons.—Common P D 28/0	
Tailor's Geese	
Sash Locks. King & Hutchinson's, new list dis 40 %	
Sandpaper.—Baeder & Adamsonui9 25 9	
Sash Weights.—Patent Eye P D 1346 Saws.—Hand Saws. Disston's discost	
Wheeler & Clemsondis 30 Cross-Cut Saws.	
W. M. & C., Common Tooth, o foot 35c Champion foot 35c	
Disston's, Common " P foot 446	
Boynton's Lightning " Proot 450 M. B. & D., Hand Saws dis 40 S	
W. M. & Co.'s, Circular Saws	
W. M. & C	
Welch & Griffith, Extra	2
Scales.—Fairbanks	
Screws.—Aiken's Flat-Head Iron	
Pitcher Spout. dis 50 5 Copper. dis 50 5 Copper. dis 50 5 Copper. dis 50 5 Carriage in 10 b papers. dis 50 5	
Round-Head Gass dis 45 Grilley Mickel-plated Plano, dis 56 C Common dis 56 C C	
ShavesKimball's Common.dis to a	
Shears,—American Shear Co	
Shot.—Tatham's # 15 blac Shovels.—O. Ames	
M. B. & D	
Snow Shovels.—Malleable tips	
Acme. dis 20 %	
Britania	
Stock and Dies.—King's	
Pittsfield	
Oneida, Imitation, H. & N	
Tree Scrapers.—No. 1	
No. 3	3
Round-Head	
Weather Strips.—Packer's doz \$4.50	
In 20 feet boxes; No. 1, 16 in. wide, # yard, 10c.; No. 2, 56 in., 156. No. 3, 56 in., 20c.; No. 4, 1 in. 20c.	
Valentine's Felt Mouldingdis 30 5 Black Wainut Spring Weather Strips # dox. \$2.55	
Window Springs	
Wire Goods, Gate Hooks and Eyes, &c., new	
Wrenches.—A. G. Coe's	
Girard Mfg. Co	
Wringers.—Universal, No. 2	2
No. 2	,
Excelsior, No. A	2
No. CC	2
Novelty Set Tub, E	3
Novelty Set Tub, E	
Unique, No. 1 # doz 64.00	2
Withington, Cooley & CoHoes, Rakes, Forks &co.	2
dis 50% 10 %. Special rate for Export.	

St. Louis Metal Market.

	ist. Bours metal	Market.
	(Corrected Weekly by Mesar	s. R. Sellew & Co.)
	Tin Plate. IDY	raldyra B Chan a
	(Corrected Weekly by Messr This Plate. IC, 10x14, Best Char. 87.35 DX JX, 10x144, 11 2.5 DX JX, 10x144, 11 2.5 DX JX, 10x142, 11 2.5 DX JX, 10x144, 11 2.5	C. 1265 K17 11 CHMF 90.2
	IX. 10X14. " 0.25 DX3	CX 126. Win 44 11.2
	IC. 12X12. " 7.25 DX3	CXX 1268712 " 13.2
	1X, 12X12, " 0.25 IC.	10×28.
	IC, 14×20, " 7.25 IX,	20X28. 0 22.0
	IX, 14x20, 14 9.25 IXX	20X28, 41 . 25.0
	IXX, 14X20, 11.25 IXX	X, 20X26, " 30.0
	IXXX, 14X20, 13.25 IC.	4xao, Best Roof. 6.7
	IXXXX, 14X20, B.Char 15.25 PK,	14×20, 0./
	1C, 12X24, 7.50 1C, 2	IOX27, 13.7
	10. manual 10.	20.K.20, Done Claber . 17.7
	1X. 14X14. " 15.75 IC.	LAX 200 DESC CORE 0.7
	IXX, 14X14. " 18.26 IC.	10×20. " " 0.7
	DC, 1262X17, " 7.24 Prb	OX 225 ab's Safe Tin 6
	1	LU. D. kef'd Juni's
	Sheet Iron. Com'n. 8	m'th. Sm'th. Sm'th
	No. 14 to 16, 3.400	4.200 6.200 7.20
	No. 18 to 20 3.500	4.200 6.200 7.20
	No. 22 to 24 3.500	4.300 6.300 7.30
	No. 20	4-400 6.500 7.50
	Alexantine Hannin Iron	4.500 0.700 7.70
	Perfect—No. o. 10, 11, 12	20
	No. 1 Stained-No. 9, 10, 11, 12	
	Tare 22 lbs. to Bdle. For less t	han Bdle, add bee in m
	Patent Planished Iron.	The state of the s
	No. 24 to 27, A quality	P D, 1056
	NO. 24 10 17, B	W B. olg
	Catympired wheat I non	
	Juniata or ist quality, discount	for full bundles
1	Black Tin. Eng	Rock Lange Piles
4	Banca, Large Pigs 22c Eng	Ref'd Small
1	Straits, Large Pigos 18c Bar.	
1	Sheet Iron. Com'n. 8 Sheet Iron. Com'n. 8 No. 14 to 16 3-40e No. 24 to 20 3-50e No. 25 to 24 3-50e No. 26 3-50e No. 27 3-50e No. 18 to 19 11. 12 12 No. 18 to 19 14. 12 12 Perfect—No. 9, 10, 11, 12 12 No. 18 to 27. A quality No. 24 to 27, B For less than Bdle, add \$6e w Ginlvanized Sheet Iron. Juniata, or 1st quality, discount Block Tin. Brage Pigs 22 Eng Straits, Large Pigs 26 Bar. R. & Co. 8 Extra Half co.	
1	R. S. & Co.'s Extra Half car	ses, no charge for
ı	and Hair P b 13c Da	eking 1256
ł	R. S. & Co.'s Extra Haif and Haif	t, in Hars
١	and Hair, in 100 m 1 spel	ter Solder24
ı	But India in 150 septiment of the septim	ars6
ı	Antimony	
ł	Blaina Ch	
J	Concintes Divon's	1.7
ı	Rabbit Metal.	# 240., 4
	No. 1 W B, 16c No.	30 % 00
ł	No. 2	4
1	Copper.	
i	Brazier's, 30x60, 14 to 100 h. Shee	\$824
į	30×60, 10, 11 & 12 B,	
J	Copper Brazier's, 30x60, 14 to 100 b. Shee Brazier's, 30x60, 15, 11 & 12 b. 12 30x60, 8 and 0 b. 30x60, 6 and 7 b. 13 30x60, 6 and 7 b. 11 11 11 11 11 11 11 11 11 11 11 11 11	26
l	Timed 130x00, 0 and 7 lb.	
	Planished taxes to and to oz	
Į	Hotter Siver to and	331
1	Gutter Copper, 20 and 24x22 to 1	I A to B. Shoots
ł	14 B, Sheets	244
ļ	Reservoir Copper, 16x6, and 18x	6020
l	Bar Copper, Square and Round,	36 to 136 Inch 241
1	Classes Books	% inch24
	Worlding Pottoms	
	Soldaring Coppare	
	Brass.	
	Rolf, No. 10 to 28, 12 in. in width.	200
	" 30, 12 in. in width	
	32, 16 in. "	111111111111111111111111111111111111111
	34, 16 in. "	***************************************
ĺ	70toton 30, 10 lll.	
	Finisers, No. 40, 6 In.	486
	Brass and Copper Wres. Brass and Copper Wres. Brass and Copper Wres. Brass and Copper Wres. Brass Copper Wres.	cent.
	Brass, Copper	Broom Conne
	No. o to 20 28c 28c No.	Drass. Copper
	No. 2131C 4:C No.	25 280
	No. 22320 4 c No.	26404
j	No. 23330 430 No.	27430 53
	Brass Spring Wire, 20 P h adv	ance.
	Brass and Copper Wire, Brass. Copper, No. oto 3036c 38c Mo. No. 2131c 4cc No. No. 2232c 4c No. No. 2333cc 4cc No. Brass Spring Wire, 2cc b adult Brass Tubing.	cent.
	Plair 16 to 2 (ne)	

Ш

ELEVATORS.

Hydraulic Elevators to Run from City Pressure.

Condensed Air and Hydraulic Elevators Operated by Steam Pump. Independent Steam Ele-

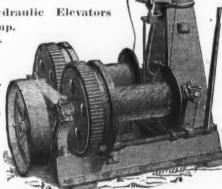
vators.

Belt Power Elevators. R Portable Hoisting Machines.

> All kinds of Hoisting Machinery a specialty.

STOKES & PARRISH

3001 Chestnut Street. PHILADELPHIA.



DOUBLE DRUM PORTABLE HOIST.



Reissued June 22, 1875. Compact, Practical, Durable and

Economical.

Acknowledged to be the best in use. This boiler

MANUFACTURED BY

SHAPLEY & WELLS,

Binghamton Iron Works.

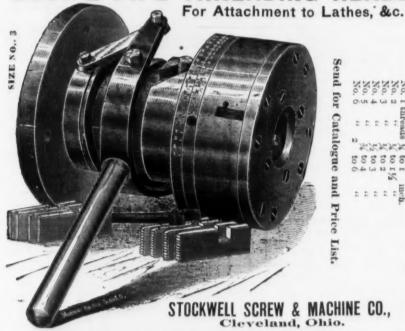
Binghamton, N. Y.

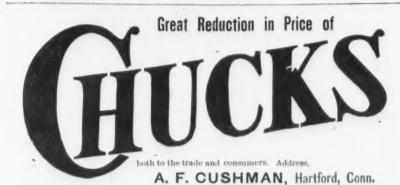
Stationary Engines and Boilers. Also Machinery for Mills of all kinds and Tanneries. Also their celebrated Bark Mills, acknowledged to be the best. Send for reduced price list circular.

JOHN ADT, BUILDER OF MANUFACTURERS' TOOLS, New Haven, Conn., U. S. A.

Automatic machines to straighten and cut wire of all sizes to any length; to cut and mill wire for butt pins, bolt shanks and similar articles; to make all kinds of ordinary staples, with either square, fleam, chisel or shear points; to make all kinds of barbed staples, including those used for blinds; to roll points on picture nails and similar articles without the use of heat; to cut and form wire into various shapes and sizes, such as rings, buckles, fence barbs and the like; combined hand and power machines for straightening and cutting wire, and machines to straighten and cut wire by hand; a variety of roll and rotary wire straighteners; machines for riveting together articles of hardware; to drill butts and other hardware; to mill butts; to drill or countersink several holes at one time, close together or at some distance apart, on a regular or irregular line; for grinding, buffing and polishing; foot, hand and power presses, and dies and tools for the same, to order; also modifications of any of the above, for special purposes. poses. Send for circulars.

BOLT & PIPE THREADING HEADS







938 to 954 River St. & 67 to 83 Vail Ave., Troy, N. Y.,

VALVES.

Double and Single Gate, % in. to 48 in.—outside and inside Screws, Inc. cator. &c for Gas, Water and Steam. Send for Circular.

Also FIRE HYDRANTS.



A. S. CAMERON'S PATENT

Is the Standard of Excellence at Home and Abroad.

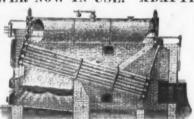
For reduced price lists address A. S. CAMERON, East 23d Street, New York.

Babcock & Wilcox Water-Tube Stean

SAFETY FROM

In Sections Easy of Transportation. No Bolted, Screwed or Packed Joints. All Joints Made by Expanding Wrought Iron Tubes into Bored Holes.

Can be Erected or Repaired by Ordinary Mechanic



EXPLOSIONS.

Easily Cleaned from Soot or Sediment. Adapted to all kinds of Fuel.

Steady Water Line and Dry Steam. No Leaks from Unequal Expansion. Rapid Steaming.

Highest Attainable Economy.

CENTENNIAL EXPOSITION MEDAL AWARDED THIS BOILER FOR HIGHEST ECONOMY AND EFFICIENCY ON TEST.

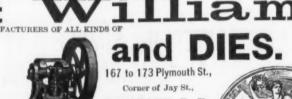




SPECIAL MACHINERY

WORKING SHEET METALS, &c. FRUIT & other CAN TOOLS

MEDAL AWARDED



Catalogues in Eng lish, French and German on application, in which prices are computed

in dollars, pounds, france and reichsmarks.

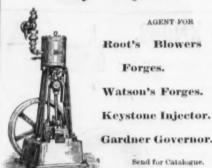
PARIS EXPOSITION, 1878.

WILLIAM COOKE, Successor to COOKE & BEGGS, NEW YORK CITY,

No. 6 Cortlandt Street,

Every Description of Machinery and Supplies

For Machinists, Mills, Mines. and Steamship and Railway Companies.



NNONN

555555

Root's Blowers and Forges.

Watson's Forges.

Keystone Injector.

Send for Catalogue.



A. J. DAVIS & CO., **Patent Friction Hoisting Engines**

For Mines, Quarries, Dock Building &c.

SHAPERS, DRAIN PIPE MACHINES, BAG AND SATCHEL MACHINERY,

Engines, Wire Dr Machinery, &c., &c.

69 N. J. R. R. Avenue, Newark, N. J. Correspondence solicited.

LANE & BODLEY CO.,

STEAM ENGINES, SAW MILLS AND MINING MACHINERY.

LANE & BODLEY COMPANY, Cincinnati, Ohio.



AIR ENGINES, NO WATER. NO ENGINEER. No extra insurance! Absolutely safe! Simple! Reliable! Durable Most convenient and economical power known.

SHERRILL ROPER AIR ENGINE CO., Manufacturers of Air Engines, Elevators and Hoisting Machinery 91 & 93 Washington Street, New York.

BOLT Proprietors of National Head.

Mfrs. of Hand and Power Bolt and Pipe Cutters, Bolt Pointers, Bolt Headers, Nut Machinery, Hot and Cold-Pressed Taps and Dies, &c. Cleveland, Ohio. Send for Circular.

P. BLAISDELL & CO.,

Iss



Blaisdell's Patent Upright Drills, With Quick Return Motion

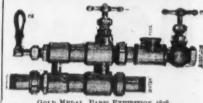
Engine Lathes, Planers, Boring Mills, Gear Cutters and Hand Lathes.

WORCESTER, MASS., U. S. A.

E. E. CARVIN & CO.



139-143 CENTRE STREET NEW YORK. Cornell's Building, Send for Illustrated Catalogu



THE HANCOCK INSPIRATOR,

THE PRATT & WHITNEY CO.,

Hartford, Conn., U. S. A., Make specialties of

DROP HAMMERS

Punching Presses, Hand Drilling Machines, Ratchet Drills, Combination Lathe Chucks, Cutters for Teeth of Gear Wheels, Screw Plates, Hand, Ma hine, Nut and Pipe Taps, Bolt Cutters, &c., &c.

Manufactured by

Crane Bros. Mfg. Co.,

CHICAGO.

Machinery, &c.

THE JUDSON GOVERNOR.

It is a common method to advertise Governors without cost, unless satisfactory to the customer, and then charge High Prices for doing what any good Governor will do. Various Governors inferior to the "Judson" are sold in this way, operating well enough for three months, to insure collection of the pay, but becoming uscless after a year's wear—their construction lacking durability. The Judson Governor is guaranteed to be not only the best Regulator of Steam Engines, but also the most durable Governor made. Parties in buying other Governors should stipulate that their durability be guaranteed, and should also take care that they do not, for much inferior Governor, pay higher prices than those shown in the accompanying list. We guarantee the Judson Governor will do all any other Governor can do, and in accuracy and durability—the main essentials—we guarantee it shall do more.

Reduced Price List, OCTOBER 15, 1878.

For dimensions of Governor, see Illustrated Price List. ## 40.00 46.00 37.75 45.00 53.00 4.85 34.00 53.00 4.85 34.00 53.00 4.85 34.00 53.00 4.85 34.00 53.00 4.85 46.00 73.00 55.00 4.85 54.00 55.

No Charge for Boxing or Cartage.

JUNIUS JUDSON & SON, Rochester, N. Y.



Issues Policies of Insurance after a careful inspection of the Boilers

Boilers, Buildings and Machinery, ARISING FROM

STEAM BOILER EXPLOSIONS.

The Business of the Company includes all kinds of STEAM BOILERS. Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, HARTFORD, CONN.,

J. M. ALLEN, Pres. W. B. FRANKLIN, Vice-Pres. J. B. PIERCE, Sec.

Manufacturing Co.
THOMAS O. ENDERS, Sec'y Ætna Life ins. Co.
LEVERETT BRAINARD, of Case, Lockwood & Brain.
D. R. SMITH, Pres't Springfield Fire & Marine Ins. Co.

J. M. ALLEN, President, LUCIUS J. HENDEE, Pres't Ætna Fire Ins. Co.
FRANK W. CHENEY, Ass't Treas. Cheboy Brothers
Silk Manufacturing Co.
CHARLES M. BEACH, of Beach & Co.
DANIEL PHILLIPS, of Adams Express Co.
GEO. M. BARTHOLOMEW, Pres't Amer. Nat'l Bank.
Manufacturing Co.
THOMAS O. ENDERS, See'y Ætna Life Ins. Co.



A. H. MERRIMAN,

Patent Power

PUNCHING PRESSES.

WEST MERIDEN,

CONNECTICUT.



ASTONISHING POWER

in FOOT and HAND PRESSES.

Punching, by foot, 3-4 hole in 5-16 iron 6 inches from edge.

Smaller sizes punch, by foot, 3-8 x 1-4, and 1 inch by 1-8, as rapidly as by power presses, at one-half the cost.

Our largest hand machines punch, easily, 1 inch hole in 3-8 iron, and shear bar 3-4 x 2 inches at a cut, any length.
All our machines can be seen in opera-

tion at our store, 52 Dey St., New York.

PEERLESS PUNCH and SHEAR CO.



CUYAHOGA WORKS



LAND AND

Marine Engines, BLAST FURNACE

Machinery, STEAM

Hammers

Send for Circulars. Cleveland, Ohio, U. S. A.

LOVEGROVE & CO., PHILADELPHIA, PA.,

BOILERS & ENGINES, ALL SIZES. HORSE ENGINE AND BOILER, \$150; SHORSE, \$175; SHORSE, \$300; SHORSE, \$300; SHORSE, \$400; SHORSE, \$425.

WARRANTED THE BEST, SEND FOR CIRCULAR.

Machinery, &c.

WILLIAM SELLERS & CO.,

PHILADELPHIA.



Multiplied Expansion Steam Trap.

Suits any Location.

Send for circular giving particulars.

Price, \$12.

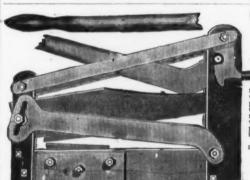
PRESSES, DROP HAMMERS, And Other Tools

SHEET METAL GOODS,

Drop Forgings, &c.

THE STILES & PARKER PRESS CO.,

Middletown, Conn.



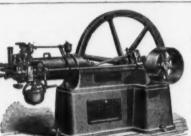
PATENT WROUGHT IRON SHEAR. With and With PUNCH ATTACHMENT

For IRON and STEEL.

Our No. 103 Machine will cut 4x3, 134 in hound and square and punch 34 inch hole

CLEVELAND HARDWARE CO. Manufacturers of

BARN-DOOR HARVERS. Send for Illustrated Circular.



AN ENGINE

that works without Boiler. Always ready to be started and to give at once full power. SAFETY, ECONOMY,

CONVENIENCE.

Burns common Gas and Air. No steam, no coal, no

ashes, no fires, no danger, no extra insurance. Al-

THE NEW

"OTTO" SILENT GAS ENGINE.

engine. Offered in sizes of 2, 4 and 7 H. P. Send Useful for all work of small stationary stee SCHLEICHER, SCHUMM & CO., Engineers and Machinists, 3045 Chestnut St., Phila.

Hammers from 50 lb. to 2500 lb. 11 Regular Sizes. WE HAVE A LARGE STOCK OF SPECIAL DROP PATTERNS.

Special attention given to the making of all Drop Dies. Special machinery fitted up to order.

New Haven, Conn. 4 for Price List. shed 1867. agton & Son NSION, EW CUTTING ERRET HES. MILLS, Radia Suspension
Multiross Sect Carriage
Mak Sect Smiths
Har ower DR mth LS, and a varie of other MACHINIST le TOOLS. Paten. Double Chain Screw

Pulley Blocks, unrivalled for Durability, Safety and Power. Patent Double Chain

Quick-Lift Hoists,

with Brake for quick and lowering.

Circulars furnished. WORKS AND OFFIC Ave., Philadelphia, Ps.,

Keystone READING PIPE AND MACHINE WORKS,

Cast-Iron Water and Gas Pipe

Forge

Portable

Machinery, &c

Corliss Engine Builders.



Engineers, Machinists, Iron Founders and Boiler Wakers. ROBT. WETHERILL & CO. Chester, Pa.

Northern Liberty Works. 312 and 314 Green Street, PHILADELPHIA, PA.

ALFRED BOX & CO., Manufacturers of

Universal Radial and Stationary Drills, Engine Lathes, Milling Machines, Steam Engines, Shafting, Hangers, Pulleys, Hoists, Elevators, Patterns for Chain Wheels, &c.

Also Sole Manufacturers of BOX'S PATENT

Double Screw Portable Hoisting

Machine. Your orders respectfully

ALFRFD BOX & CO.



Harris Corliss Engine,

Built by WM. A. HARRIS, Providence, R. A.



PITTSBURCH MFC. CO. Manufacturers of Nail and Spike Machines, Bolta, luts, Washers, Rivets, &c. Castings, Forgings and Blacksmith Work promptly attended to.

OFFICE & WORKS, Railroad St., near 28th, Pittsburgh, Pa. Shafting, Pulleys,

Hangers, etc., a specialty. Send for Price List to

A. & F. BROWN.

57-61 Lewis St., New York.

ROCK BREAKERS. Blake's Patent Expired--End of Monopoly. The undersigned, sole owners of the old Levi athan, Gates' patent, and the Brown's patent Roch breakers, will guarantee our crushers to break

Office, 52 Canal Street, Chicago, Ill.

GATES & SCOVILL IRON WORKS.



TUBAL SMELTING WORKS, STANLEY G. FLAGG & CO.

PAUL S. REEVES. MANUFACTURER OF

ANTI-FRICTION METALS

CAR & MACHINERY BRASSES, INCOT BRASS AND SOLDER, WHITE BRASS.

Old Metals and Brass Turnings Wanted. ESTABLISHED 1842.

HARVEY ROWLAND. PHILADELPHIA,

P. O. Address : Frankford, Philad'a. MANUFACTURERS OF ALL KINDS OF

"Brewster Side Bar Combination Patented" Springs.

SWEDISH STOCK, OIL-TEMPERED and WARRANTED.

Swedish Tire, Toe, Blister and Spring Steel.

CAST SPRING AND PLOW STEEL. CAST SHOVEL, HOE AND MACHINERY STEEL

OXPORD TOE, SLEIGH, TIRE AND SPRING STEEL. BESSEMER SHOVEL AND PLOW STEEL.

RE-ROLLED NORWAY SHAPES.

BESSEMER MACHINERY AND CULTIVATOR STEEL.

NORWAY NAIL RODS ROLLED AND SLIT FROM SUPERIOR BRANDS. CHARLES E. JENNINGS. FRANCIS B. GRIFFIN

JENNINGS & CO., 98 Chambers St., New York.

OMMEDIEU and WATROUS & C.O., Ship Augers and Bridge Builders' Augers; E. H. a and Railroad Augers: NOBLES MFG. CO., Carpenters' Augers. Bits and Drawing Rollyes; CONN. CO., Sola Read Bits; NEWCOMB BROS., Hand, Moulders' and Blacksmiths' Bellows. AYHEW & CO., Shepardson's Bits; BENJAMIN PIERCE, Auger Bits; PHILLIPS MFG. C. I. JEFFORDS, Axes and Hatchets; BARBER'S Patent Countershinks; BONNEY'S



This Bit has no equal for boring hard wood. In cross grain, knots, and the end periority over any other is strongly marked. The solid head guarantees a perfect C. E. JENNINGS & CO., Sole Agents



THE MOST PERFECT, MOST POWERFUL, and MOST ECONOMICAL TOOL Of its Kind ever Offered.

C. H. DELAMATER & CO., 10 Cortlandt St., New York.

J.M. CARPENTER PAWTUCKET.R.I.

Hanufacturer of TAPS AND DIES of every description. Also, for sale low, UNITED STATES STANDARD GAUGES, from 1/4 to 3 inch

We make Castings practically free from blow-holes, of steel which is as soft and as easily Worked and Welded as Wrought Iron, yet is STIFF, STRONG and DURABLE, with a TENSILE STRENGTH of not less than 55,000 lbs. to the square inch. In short, our Cast-INGS UNITE THE QUALITIES OF STREE AND WROUGHT IRON.

Wheels and Pinions, Dies and Hammer Heads, Engine and Machinery Castings of all descriptions Railroad Frogs and Crossings, Plowshares, Moldboards and Landsides. WE USE NO CAST IRON.

Send for circular PITTSBURCH STEEL CASTING CO., PITTSBURGH, PA.

C. Merrill & Sons 556 Grand St.,

NEW YORK.

HAMMERS, FORGINGS and POWER PRESSES.

The Reading Reading. **Bolt & Nut Works.**

MACHINE BOLTS, HOT PRESSED NUTS.

Railroad Track Bolts, Boiler and Bridge Rivets, Bolt Ends, Washers, Wood Screws. Turnbuckles, Refined Bar Iron, Etc., Etc., Etc.

PHILADELPHIA, PA.

Office and Warehouse, No. 916 & 918 N. THIRD ST.

STEEL CASTINGS.

abstitute for Steel and Wrought Forgings

Light and heavy Steel Castings of superior netal, solid and homogeneous. All work guaranteed. Send for circular.

EUREKA CAST STEEL CO. Office: 307 Walnut St., Phila.

IF YOU WANT A BABY

Racket Lantern

that beats the world, you can find it, together with

No. 74, No. 76,

POLICE, FARM LANTERNS,

Tubular Street, Square and Side Lamps,

Square Station Lamps, CORPORATION

NEW YORK STREET LAMPS,

54 & 56 Fulton St., New York. R. E. DIETZ.

Machines Reduced Wheels Guaranteed

our new illustrated catalogue. Weissport,

Pa.

No. 4 West Ave.





Columbia Chilled Plows. Made entirely of the best quality selected

CHARCOAL IRON. Warranted to clean in any soil.

Also. Gray, Chilled Iron and Hard Metal Castings,

MADE BY THE COLUMBIA PLOW WORKS,

Copake Iron Works, Cola. Co., N. Y. Reliable agents wanted for these plows in ever own throughout th United States.



Corant A Brass Works, J. M. EVERHART, BRASS WORK,

Carr & Wilcox's Patent Cut Files. Will cut faster, wear longer, an ass than any File in the market.

Cliff Street, SCHANTON, PA.

Russell, Burdsall &

CARRIAGE, TIRE, PLOW, STOVE AND OTHER BOLTS.

Carriage Bolts made from Best Square Iron a Specialty,

Green River Works,

Table and Pocket Cutlery.

TUBULAR, DIAMOND, BUTCHERS', HUNTERS', PAINTERS', DRUGGISTS' & HOUSEHOLD KNIVES IN ALL STYLES AND VARIETIES.

FIRST HOME MANUFACTURERS.

New York Office, 90 Chambers Street.



Factories. Turners Falls, Mass.

FROM 1-4 TO 10,000 LBS. WEIGHT. True to pattern, sound and solid, of unequaled strength, toughness and durability. An invaluable substitute for forgings or cast iron requiring three-fold strength. Gearing of all kinds, Shoes, Dies, Hammerheads, Crossheads for Locomotives, etc. 12.000 crank Shafts of this steel now running proved superior to wrought iron. CRANK SHAFTS, CROSSHEADS AND GEARING ARE SPECIALTIES. Circulars and Price Lists free, Address

CHESTER STEEL CASTINGS CO., s. Chester, Pa. 407 Library St., Philadelphia. Works, Chester, Pa.



First-Class Saws, Saw Frames, Cross-Cut Handles, Tools, Files, &c. Also Sole Proprietor and Manufacturer of the Genuine Patent Lightning Saw, SO BEEKMAN STREET, NEW YORK. TRIAL OF THE IMPROVED LIGHTNING SAW.

in the state of th INTERPRETATION PROPERTY OF THE PROPERTY OF THE

Most Powerful and Most Durable Spring Hinges in the Market.



Bolts,

Nuts,

New and Beautiful

Designs.



scale

of the most

A los places One v

again

spoon

dropp door. minut

cent.)

milien i ful); i fettlin

lower up bet

surface

The

The

The same Butts can be used for either right or left hand doors. Send for prices

MANUFACTURED BY

THE AMERICAN SPIRAL SPRING BUTT CO., NO. 89 BEEKMAN STREET, NEW YORK.

Rod and Coil Door Springs, At Rock Bottom Prices.

GEM.

STAR.

TORREY. MANUFACTURED BY

BEE.

VAN WAGONER & WILLIAMS, 82 Beekman St., New York.

BALTIMORE RIVET AND SPIKE WORKS.

Rivets, Spikes,

Washers. Bolt Ends, Wood Screws, Track Bolts.

WM. GILMOR of WM., cor. President & Fawn Sts.